Access DB#

SEARCH REQUEST FORM

Scientific and Technical Informati n Center
Requester's Full Name: Bruke Tedesch. Braminer #: 78150 Date: 1276! Art Unit: 1642 Phone Number 308 4823 Serial Number: 09/389545 Mail Box and Bldg/Room Location: M1/8 TH Results Format Preferred (circle): PAPER DISK E-MAIL If more than one search is submitted, please prioritize searches in order of need.
Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.
Title of Invention: Composition and Methods for the prevention atreatment of Inventors (please provide full names): Culin R. Dunston
Earliest Priority Filing Date: 9 3 19
For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.
@ AMINO Acid Residues 22-194 IN SEG. ID #2
@ AMINO ALLA MESIANOS & 2-111 110 30 Q. EIST 2
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SE ONLY	Type of Search	Vendors and cost where applicable
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Completed: 1/27/01	Litigation	Lexis/Nexis
cher Prep & Review Time:	Fulltext	Sequence Systems
erical Prep Time:	Patent Family	WWW/Internet
nline Time:	Other	Other (specify)

PTO-1590 (1-2000)

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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 2000000000
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SUMMARIES

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PROSITE; PS00652; TNFR_NGFR_1; |
PROSITE; PS50017; DEATH_DOMAIN;
PROSITE; PS50050; TNFR_NGFR_2;
PRODOM; PD000771; -; 1.
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HSSP; P25942; 1C
MGD; MGI:109587;
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TISSUE SPECIFICITY: EXPRESSED AT HIGH LEVELS IN LIVER, LUNG, BRAIN, HEART, KIDNEY, STOMACH, INTESTINE, SKIN, CALVARIA AND PLACENTA. NOT DETECTED IN SPLEEN.
DEVELOPMENTAL STAGE: IN THE EMBRYO, HIGH LEVELS ARE DETECTED
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DAY 7. AT DAY 11, EXPRESSION DECREASES
15 TO DAY 17.
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; AB013898; BAA28269.1; -
; AB0139903; BAA33388.1; -
; AB013899; BAA33388.1; J
; AB013900; BAA33388.1; J
; AB013901; BAA33388.1; J
; AB013902; BAA33388.1; J
        CKKCPDGFFSGETSSKAPCIKHTNCSTFGLLLIQKGNATHDNVCSGNREATQK 173
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Matches Query Match Best Local 9

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01-OCT-2000
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"Osteoprotegerin: a novel secreted protein involved in the regulation of bone density.";
Cell 89:309-319(1997).
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HSSP; P25942; 1CDF.
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Mammalia; Eutheria;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FUNCTION: MAY REGULATE BONE RESORPTION BY BLOCKING TERMIN OF OSTEOCLAST DIFFERENTIATION AND ALLOWING ACCUMULATION O SYNTHESIZED BONE AND CARTILAGE. MAY INHIBIT IN VITRO OSTEOCLASTOGENESIS BY INTERUPTING CELL-TO-CELL SIGNALING STROMAL CELLS AND OSTEOCLAST PROGENITORS.
SUBUNIT: HOMODIMER (MAJOR FORM) AND MONOMER (MINOR FORM) SIMILARITY).
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                  DEATH DOMAIN.
BY SIMILARITY,
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Matches 151
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He Z.-Y., Yang G.-Z., Zhang W.-J
"Cloning and Expression of Osteo
Sheng Wu Hua Hsush Yu Sheng Wu W
EMBL; AF134187; AAF20168.1; -
HSSP; P25942; 1CDF.
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01-JUI-1997 (TrEMBLrel. 04, Created)
01-JUI-1997 (TrEMBLrel. 04, Last sequence update)
01-JUI-1997 (TrEMBLrel. 15, Last annotation update)
01-OCT-2000 (TrEMBLrel. 15, Last annotation update)
OSTEOPROTEGERIN PRECURSOR (OSTEOCLASTOGENESIS INHIBITORY FACTOR)
(OCIF) (TUMOR NECROSIS FACTOR RECEPTOR SUPERFAMILY MEMBER 11B).
                                                                                              Eukaryota; Metazoa;
Mammalia; Eutheria;
                     SEQUENCE FROM N.A.
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01-MAY-2000
                                                                         NCBI_TaxID=9606;
                                                                                                                                                   Homo sapiens (Human)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
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TE; PS00652; TNFR_NGFR_1;
TE; PS50050; TNFR_NGFR_2;
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O (TrEMBLrel. 13,
O (TrEMBLrel. 15,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
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                                                                                              Chordata;
Primates;
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87.3%;
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on of Osteoprotegerin from Homo sapiens.";
Sheng Wu Wu Li Hsueh Pao 31:680-684(1999).
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Last annotation updat
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Pred. No. 4.3e-85;
7; Mismatches 15
                                                                                              Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      UNKNOWN_1.
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REPEAT
REPEAT
DOMAIN
DISULFID
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PROSITE;
CARBOHYD
CARBOHYD
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REPEAT
                                                                                                                                                                                                                    Glycoprotein;
SIGNAL
                                                                                                                                                                                                                                                                                                               THE PANCREAS OR PERIPHERAL BLOOD LYMPHOCYTES.
-:- SIMILARITY: CONTAINS A LA-NGFR/TNFR-TYPE CYST
EMBL; AB002146; BAA25910.1; --
EMBL; AB002246; BAA25910.1; --
EMBL; AB008822; BAA32076.1; --
EMBL; AB008821; BAA32076.1; JOINED.
EMBL; 040322; ABA3799.1; --
EMBL; U94032; ABA3799.1; --
EMBL; U94032; ABA3799.1; --
EMBL; U94032; ABA3799.1; --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Morinaga T., Nakagawa N., Yasuda H., Tsuda E., Higashio I "Cloning and characterization of the gene encoding human osteoprotegerin/osteoclastogenesis-inhibitory factor."; Eur. J. Biochem. 254:685-691(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Identity of osteoclastogenesis inhibitory osteoprotegerin (OPG): a mechanism by which osteoclastogenesis in vitro."; Endocrinology 139:1329-1337(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Osteoprotegerin: a no of bone density."; Cell 89:309-319(1997).
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                        CARBOHYL
                                                                                                                                                                                             DOMAIN
                                                                                                                                                                                                          CHAIN
                                                                                                                                                                                                                                                                                PFAM; PF00020; TNFR_c6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Yasuda H., Shima N., Nakagawa N., M
Sato Y., Goto M., Yamaguchi K., Kur
Tsuda E., Morinaga T., Higashio K.;
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MEDLINE=98151033; PubMe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Suggs S.,
                                                                                                                                                                                                                                              PRODOM; PD000771;
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                                                                                                                                                                                                                                                                                           INTERPRO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FISSUE=PLACENTA;
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                                                                                                                                                                                                                                                                                                                                                                                                   SUBCELLULAR LOCATION: EXTRACELLULAR SUBCELLULAR TISSUE SPECIFICITY: EXPRESSED AT HIGHEST LEVELS IN KIDNEY, PLACENTA, THYROLD, SPINAL CORD AND LIVER. A NUMBER OF OTHER HEMATOPOIETIC AND IMMUNE ORGANS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                             FUNCTION: MAY REGULATE BONE RESORPTION BY BLOCKING TERMINAL OF OSTEOCLAST DIFFERENTIATION AND ALLOWING ACCUMULATION OF N SYNTHESIZED BONE AND CARTILAGE. MAY INHIBIT IN VITRO OSTEOCLASTOGENESIS BY INTERUPTING CELL-TO-CELL SIGNALING BET STROMAL CELLS AND OSTEOCLAST PROGENITORS.
SUBUNIT: HOMODIMER (MAJOR FORM) AND MONOMER (MINOR FORM) (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                      SIMILARITY).
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PS50050; TNFR_NGFR_2;
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 Repeat;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a novel secreted protein involved in the regulation
 Cytokine;
                                BY SIMILARITY
           POTENTIAL.
                                                                                                                                                                    TNFR-CYS
                                                                                                                                   DEATH DOMAIN
                                                                                                                                               TNFR-CYS 4
                                                                                                                                                          TNFR-CYS
                                                                                                                                                                                                         OSTEOPROTEGERIN
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                                                                                                                                                                                             X TNFR-CYS.
                                                                                                                                                                                                                   Signal. SIMILARITY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             itory factor (OCIF) and which OPG/OCIF inhibits
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Kanno
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T., Murakami A.,
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DETECTED
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Best Local
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"Genomic amplification of a decoy receptor for Fas ligan. Colon cancer.";
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CONFLICT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       095407
                                                                                                                                                                                                                                                      MEDLINE=99253915; PubMed=10318773; Yu K.Y., Kwon B., Ni J., Zhai Y., Ebner R., Kwon B.S.; "A newly identified member of tumor necrosis factor resuperfamily (TR6) suppresses LIGHT-mediated apoptosis. J. Biol. Chem. 274:13733-13736(1999).
                                                              EMBL;
                                                                                                                 Proc.
EMBL;
                                                                                                                                                      Bai C., Connolly B., Metzker M.L., Hilliard C.A., Liu X., Sandig V., Soderman A., Galloway S.M., Liu Q., Austin C.P., Caskey C.T.; "Overexpression of M68/DCR3 in human gastrointestinal tract tumors independent of gene amplification and its location in a four-gene
                                                                                                                                                                                                                                                                                                                         TISSUE-BLOOD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
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01-MAY-1999 (TrEMBLrel. 10, Last sequin COTT-2000 (TrEMBLrel. 15, Last anno DECOY RECEPTOR 3 (M68) (M68C) (M68E).
                                                                                                                                                                                                                        TISSUE=PANCREAS;
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              INTERPRO; IPR000561; -.
INTERPRO; IPR001368; -.
PFAM; PF00020; TNFR_c6;
                                                                                         EMBL;
                                                                                                      EMBL;
                                                                                                                                          cluster.
                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
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                                                 Natl. Acad. Sci. U.S.A. 97:1230-1235(2000)
AF104419; AAD03056.1; -.
AF134240; AAD0368.1; -.
AF217796; AAF35244.1; -.
AF217794; AAF33685.1; -.
AF217794; AAF33686.1; -.
P25942; 1CDF:
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)0020; TNFR_c6; 4.
PS00652; TNFR_NGFR_1;
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Pred. No. 4.6e-85;
7; Mismatches 15;
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EB42FA51C9D7C71E CRC64;
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SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bobe J., Goetz F.W.;
"A tumor necrosis factor receptor homolog is up-regulated in the brook trout (Salvelinus fontinalis) ovary at the completion of ovulation.";
Biol. Reprod. 0:0-0(1999).
Biol. Reprod. 0:0-0(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Salvelinus fontinalis (Brook trout).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrz
Actinopterygii; Neopterygii; Teleostei; Euteleos
Protacanthopterygii; Salmoniformes; Salmonidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE; PS01186; EGF_2; UNKNOWN_1.
PROSITE; PS50050; TNFR_NGFR_2; 2.
PRODOM; PD000771; -; 1.
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                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PFAM; PF00020; TNFR_c6; 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HSSP; P19438; 1EXT.
INTERPRO; IPR000561; -.
INTERPRO; IPR001368; -.
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146
                                          129
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                                          FSGETSSKAPCIKHTNCSTFGLLLIQKGNATHDNVCS
                                                                                         VVKQECSPSNNCECECKEGYYFNKKYEACIKHKECPPGYGANTTGTPHQDTECVQCQAGF
                                                                                                                SVKQECNRTHNRVCECEEGRYL--EIEFCLKHRSCPPGSGVVQAGTPERNTVCKKCPDGF 128
                                                                                                                                                                                DRYSGLSIVCDRCPPGTYLRAPCSAMRKSDCAECPNGAYTEFWNHISKCLRCS-MCAENQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PPGTFSASSSSSEQCQPHRNCTALGLALNVPGSSSHDTLCT
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                                                                                                                                                                                                                                                                       l Similarity
67; Conser
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                                                                                                                                                                                                                                                                                                                                                                                                                                PS00652; TNFR_NGFR_1; UI
PS01186; EGF_2; UNKNOWN,
PS50050; TNFR_NGFR_2; 1
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42.7%;
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Pred. No. 2.7e-36;
7; Mismatches 65
                                                                                                                                                                                                                                                                                          Score 390.5;
Pred. No. 3.3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               UNKNOWN_1
                                                                                                                                                                                                                                                                         Mismatches
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annotation
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nes 53;
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182
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Best Local Similarity
Matches 62; Conserv
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01-NOV-1996
01-MAY-2000
"Two human TNF receptors have similar intracellular, domain sequences."; Cytokine 2:231-237(1990).
EMBL; S63368; AAB19824.1; -.
HSSP; P25942; 1CDF.
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Q62327;
                                                                                                                                              Dembic Z., Lo
Brockhaus M.,
                                                                                                                                                                                                                                                                                                                                                                                                                  01-NOV-1996 (TrEMBLrel. 01, Created)
01-JAN-1999 (TrEMBLrel. 09, Last sequence update)
01-CCT-2000 (TrEMBLrel. 15, Last annotation update)
TUMOR NECROSIS FACTOR RECEPTOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalla; Eutheria; Primates; Catarrhini; Hominidae
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Powell E.E., Wicker L.S., Peterso
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01-NOV-1996 (TrEMBLrel. 13, Last sequence update)
01-NAY-2000 (TrEMBLrel. 13, Last annotation update)
TUMOR NECROSIS FACTOR RECEPTOR 2 MRNA (FRAGMENT).
                                                                                                                                                                          MEDLINE=91370690; PubMed=1966549;
Dembic Z., Loetscher H., Gubler U.,
                                                                                                                                                                                                                                                                                                  NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q16042;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PFAM; PF00020;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INTERPRO;
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                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens (Human).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          YKPEPGYECQISQEYYDRKAQMCCAKCPPGQYVKHFCNKTSDTVCADCEASMYTQVWNQF 76
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                                                                                                                                                 Loetscher H., G
M., Lesslauer W.
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type 2 tumor n
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Last sequence update)
Last annotation update)
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Pred. No. 1.4e-23;
7; Mismatches 73
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Sciurognathi; Muridae;
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factor receptor
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Best Local S
Matches 62
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Best Local
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PRAM; PF00020; TNFR_C6; 4.

PROSITE; PS00652; TNFR_NGFR_1; 2

PROSITE; PS50050; TNFR_NGFR_2; 2

PRODOM; PD000771; -; 1.

SEQUENCE 439 AA; 46090 MW; I
                                                                                                                                                                                                                                                        EMBL; Y14619; CAA74969.1; J
EMBL; Y14620; CAA74969.1; J
EMBL; Y14621; CAA74969.1; J
EMBL; Y14622; CAA74969.1; J
EMBL; Y14623; CAA74969.1; J
EMBL; Y14679; CAA74969.1; J
EMBL; Y14679; CAA74969.1; J
HSSP; P19438; INCF.
                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                             Mus musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-NOV-1998 (TrEMBLrel.
01-NOV-1998 (TrEMBLrel.
01-OCT-2000 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       088734;
01-NOV-1998
                                                                                                                                                                                                  PROSITE; PS00652; PROSITE; PS50050; PRODOM; PD000771;
                                                                                                                                                                                                                                                                                                                                          Genomics 0:
                                                                                                                                                                                                                                                                                                                                                     Characterization of
                                                                                                                                                                                                                                                                                                                                                                            Hurle
                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM
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                                                                                                                                                                                                                                     PFAM; PF00020; TNFR_c6; 4
                                                                                                                                                                                                                                                                                                                                                               Hurle B., Segade F., Rodriguez R., Ramos (The Mouse Tumor Necrosis Factor Receptor
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             103
                                                                                                                                                                                                                                                NTERPRO;
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CPPGSGVVQAGTPERNTVCKKCPDGFFSGETSSKAPCIKHTNCSTFGLLLIQKGNATH V 162
                             TQVWNQFRTCLSCSSSCSTDQVETRACTKQQNRVCACEAGRYCALKTHSGSCRQCMR1::k 151
                                                 TDSWHTSDECVYCSPVCKELQSVKQECNRTHNRVCECEEGRYLEIEF-----
                                                                                                        YDPETGH----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGTPERNTVCKKCPDGFFSGETSSKAPCIKHTNCSTFGLLLIQKGNATHDNVCS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 YAPEPGSTCRLREYYDQTAQMCCSKCSPGQHAKVFCTKTSDTVCDSCEDSTYTQLWNWVP 69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      YDPETGH - - -
                                                                                 YKPEPGYECQISQEYYDRKAQMCCAKCPPGQYVKHFCNKTSDTVCADSDTVCADCEASMY
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62; Conserv
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                                                                                                                                                                                        AA;
                                                                                                                                                                                                           TNFR_NGFR_1;
TNFR_NGFR_2;
                                                                                                                                                                                                                                                                                                                                                                                                                         Chordata;
Rodentia;
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15,
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                                                                                               -QLLCDKCAPGTYLKQHCT-----VRRKTLCVPCPDH-sy
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JOINED.
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JOINED.
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                                                                                                                              Score 287.5;
Pred. No. 3.1e
L7; Mismatches
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Last annotation update)
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Pred. No. 2.2e-23;
5; Mismatches 75
                                                                                                                                                                                                                                                                                                                                                                                                                       Craniata; Vertebrata; Sciurognathi; Muridae;
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                                                                                                                                                                                       F6C15046B48FF83C CRC64;
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Murinae; M:
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Best Local
Matches 5
01-NOV-1999 (TrembLrel. 12, Created)
01-NOV-1999 (TrembLrel. 12, Last sequence update)
01-OCT-2000 (TrembLrel. 15, Last annotation update)
RECEPTOR ACTIVATOR OF NF-KAPPA-B PRECURSOR (TNF-RELATED ACTIVATION-INDUCED CYTOKINE RECEPTOR) (RANK).
                                                                  Q9Y6Q6;
                                                                              998606
                                                                                                                                                                                                                                                                                                                                                                                          INTERPRO; IPR001368; ...
PFAM; PF00020; TMFF_C6; 4.
PFAM; PF00531; death; 1.
PROSITE; PS00652; TMFF_NGFR_1; UNKNOWN_1.
PROSITE; PS50017; DEATH_DOMAIN; 1.
PROSITE; PS50050; TMFF_NGFR_2; 1.
PRODOM; PD000771; -; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.

Pan G., Bauer J.H., Haridas V., Wang S., Liu D., Vincenz C., Aggarwal B.B., Dixit V.M.;

Vincenz C., Aggarwal B.B., Dixit V.M.;

"Identification and functional characterization domain-containing TNF receptor.";

Submitted (MAY-1998) to the EMBL/GenBank/DDBJ days and the Containing TNF receptor.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-NOV-1998 (TrEMBLrel. 08, 01-NOV-1998 (TrEMBLrel. 08, 01-OCT-2000 (TrEMBLrel. 15, TMFR-RELATED DEATH RECEPTOR-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HSSP; P07174; INGR.
INTERPRO; IPR000488; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Submitted (FEB-2000)
EMBL; AF068868; AAC3
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DR6 OR DJ181
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(; AL096801; CAB75692.1; -.

PRO7174; INGR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OR DJ181J13.1.
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                                                                                                                                                                    GFFSGETSSKAPCIKHTNCSTFGLLLIQKGNATHDNVC
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                                                                                                                                                                                                                     KELQSVKQECNRTHNRVCECEEGRYLEIEFCLKHRSCPPGSGVVQAGTPERNTVCKKCPD 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGPGFGVASSRAPNGNVLCKACAPGTFSDTTSSTDVCRPHRICS----ILAIPGNASTDA
                                                                                                                                                                                                                                                                                                   l Similarity
57; Conserv
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                                                                                                                                                                                                                                                                                                     Conservative
                                                                              PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                   71844
                                                                                                                                                                                                                                                                                                                28.0%;
36.1%;
                                                                                                                                                                                                                                                                                                                                                                   , WM
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Last sequence update)
Last annotation update)
-6 (DJ181J13.1) (DR6 (TNFR-RELATED DEATH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                              Score 278;
Pred. No. 4
                                                                                                                                                                                                                                                                                                                                                                   48939391C4852A33 CRC64;
                                                                                                                                                                                                                                                                                                   Mismatches
                                                                             616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              655
                                                                                                                                                                                                                                                                                                                DB 4;
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                                                                                                                                                                      164
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                                                                                                                                                                                                                                                                                                   82;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       databases
                                                                                                                                                                                                                                                                                                                            Length 655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of
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Best Local
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SIGNAL 1 22
CHAIN 23 616
DOMAIN 24 212
TRANSMEM 213 233
DOMAIN 234 616
DOMAIN 33 195
REPEAT 33 69
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CARBOHYD
CARBOHYD
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DISULFID
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SEQUENCE FROM N.A.
MEDLINE=98032977; PubMed=9367155;
MEDLINE=98032977; PubMed=9803297;
MEDLINE=98032977; PubMed=9803297;
MEDLINE=98032977; PubMed=9803297;
MEDLINE=9803297;

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PFAM; PF00020; TNFR_C6; 4.
PROSITE; PS00652; TNFR_NGFR_1;
PROSITE; PS50050; TNFR_NGFR_2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DISULFID
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; AF018253; AAI
HSSP; P25942; 1CDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 and dendritic-cell funct
Nature 390:175-179(1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Galibert L.;
"A homologue of the TNF receptor and its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   мім; 603499;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INTERPRO; IPRO01368;
   165
                                                                                                                           105
                                                                                                                                                                                                                                                                                                                                                                                            Local
                                                                                                                                                                                    77
                                                                                                                                                                                                                                                47
                                                                                                                                                                                                                                                                                20 CDKCAPGTYLKQHCTVRRKTLCVPCPDHSYTDSWHTSDECVYCSPVC---KELQSVKQEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SIMILARITY: CONTAINS A LA-NGFR/TNFR-TYPE CYSTEINE-RICH REGION. L; AF018253; AAB86809.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SUBCELLULAR LOCATION: TYPE I MEMBRANE PROTEIN (POTENTIAL). TISSUE SPECIFICITY: UBIQUITOUS EXPRESSION WITH HIGH LEVELS SKELETAL MUSCLE, THYMUS, LIVER, COLON, SMALL INTESTINE AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FUNCTION: RECEPTOR FOR A CYTOKINE LIGAND KNOWN AS
                                            SKAPCIKHTNCSTFGLLLIQKGNATHDNVCSGNREA 170
                                                                                                                                                                                                                                             CNKCEPGKYMSSKCTTTSDSVCLPCGPDEYLDSWNEEDKCL-LHKVCDTGKALVAVVA: 104
STDKCRPWTNCTFLGKRVEHHGTEKSDAVCSSSLPA
                                                                                                                        NSTTPRRCACTAGYHWSQDCECCRRNTECAPGLGAQHPLQLNKDTVCKPCLAGYFSDAFS
                                                                                                                                                                                 NRTHNRVCECEEGRY--LEIEFCLKHRSCPPGSGVVQAGTPERNTVCKKCPDGFFSGETS 134
                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                      Conservative
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                                                                                                                                                                                                                                                                                                                                                                      19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BY SIMILARITY.
BY SIM
                                                                                                                                                                                                                                                                                                                                                                   Score 243.5;
Pred. No. 1.6e
19; Mismatches
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TNFR-CYS 1.
TNFR-CYS 2.
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                                                                                                                                                                                                                                                                                                                                                                   1.6e-17;
nes 75;
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   200
                                                                                                                                                                                                                                                                                                                                                                                                                               DB 4;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             enhance T-cell
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                                                                                                                                                                                                                                                                                                                                                                                                                            Length 616;
                                                                                                                                                                                                                                                                                                                                                                      Indels
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RESULT 035305 ID 035

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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              035305;
01-CAN-1998 (TrEMBLrel. 05, Created)
01-JAN-1998 (TrEMBLrel. 05, Last sequence update)
01-CCT-2000 (TrEMBLrel. 15, Last annotation update)
                                                                                                                                                                                                                                                                                                      DISULFID
CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REPEAT
REPEAT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       nad dendritic-cell funct
Nature 390:175-179(1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REPEAT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROSITE; PS00652; TNFR_NGFR_1; UNKNOWN_1.
PROSITE; PS01186; EGF_2; UNKNOWN_1.
PROSITE; PS50050; TNFR_NGFR_2; 1.
PRODOM; PD000771; -; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -i- FUNCTION: RECEPTOR FOR A CYTOKINE LIGAND KNOWN AS RANKL.
-!- SUBCELLULAR LOCATION: TYPE I MEMBRANE PROTEIN (POTENTIAL)
-!- SIMILARITY: CONTAINS A LA-NGER/TNER-TYPE CYSTEINE-RICH RE
EMBL; AF019046; AAB86810.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISSUE-LIVER EPITHELIUM;
MEDLINE-98032977; PubMed-9367155;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mus musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INDUCED CYTOKINE RITNERSF11A OR RANK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PFAM; PF00020;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                INTERPRO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "A homologue of the TNF receptor
and dendritic-cell function.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Receptor;
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                                                                                                                                                 ETLPP--KYLHYDPETGHQLLCDKCAPGTYLKQHCTVRRKTLCVPCPDHSYTDSWHTSDE
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TPERNTVCKKCPDGFFSGETSSKAPCIKHTNCSTFGLLLIQKGNATHDNVCSGN 167
                                   CL-LHKVCDAGKALVAV-DPGNHTAPRRCACTAGYHWNSDCECCRRNTECAPGFGAQHPL
                                                                       CVYCSPVC - - - KELQSVKQECNRTHNRVCECEEGRY - - LEIEFCLKHRSCPPGSGVVQAG
                                                                                                               QVTPPCTQERHYE-HLGR--CCSRCEPGKYLSSKCTPTSDSVCLPCGPDEYLDTWNEEDK
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                                                                                                                                                                                                             Similarity
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                                                                                                                                                                                           Conservative
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Roux E.R., Teepe M.C.,
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Rodentia;
                                                                                                                                                                                                             24.1%;
33.9%;
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BY SIMILARITY.

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4 X TNFR-CYS.
TNFR-CYS 1.
                                                                                                                                                                                                             Score
Pred.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Craniata; Vertebrata;
Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Billingsley W.
e M.C., DuBose
                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             and
                                                                                                                                                                                                                              239;
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                                                                                                                                                                                                             4.7e-17;
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                                                                                                                                                                                                                              DB 11;
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; Murinae; Mus
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Best Local
                               Massung R.F., Esposito J.J., Liu I
Knight J.C., Aubin L., Yuran T.E.,
"Potential virulence determinants
smallpox virus genome.";
Nature 366:748-751(1993).
                   Nature
[2]
                                                                                                                                       SEQUENCE FROM N.A.
STRAIN=BANGLADESH-1975;
MEDLINE=94088747; PubMed=8264798;
                                                                                                                                                                                                                                                                                                       HOMOLOG OF V
G2R OR CRMB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Loparev V.N., Parsons J.M Submitted (FEB-1997) to tl EMBL; U88151; AAB94376.1; HSSP; P25942; 1CDF.
                                                                                                                                                                                                                                                                                                                                                                  01-NOV-1996
                                                                                                                                                                                                                                                                                                                                                                                                           Q85407;
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PROSITE; PS00652; TNFR_I
PROSITE; PS50050; TNFR_I
PRODOM; PD000771; -; 1.
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STRAIN='WHITEPOX' CHIMP
                                                                                                                                                                                                                                                Orthopoxvirus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SCNGRCNSNQVETRSCNTTHNRICECSPGYYCLLKGSSGCKACVSQTKCGIGYG-VSGHT 142
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                                                         747; PubMeu----
Esposito J.J., Liu L.I., v.-
Esposito J.J., Liu L.I., Parsons J.M.,
Aubin L., Yuran T.E., Parsons J.M.,
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TNFR_NGFR_2;
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.M., Esposito J.J.;
the EMBL/GenBank/DDBJ
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Pred. No. 2.
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                                                                            Utterback T.R.,
M., Loparev V.N.;
regions of variola
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SEQUENCE

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Best Local Similarity
Matches 48; Conserv
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CSTRAIN-MAJOR, CONGO-1970 (CNG-70);

SIRAIN-MAJOR, CONGO-1970 (CNG-70);

Loparev V.N., Parsons J.M., Esposito J.J.;

R EMBL; U88147; AAB94372.1; -.

R HSSP; P25942; 1CDE.

R INTERPRO; IPRO01158; -.

PROSITE; PS00052; TNFR_C6; 2.

PROSITE; PS00052; TNFR_NGFR_1; 2.

PROSITE; PS00052; TNFR_NGFR_2; 2.

R PRODOM; PD000771; -; 1.

SEQUENCE 349 AA; 38273 MW; 2987FF000CD4824F5 CRC64;
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Best Local Similarity 30.0
Matches 48; Conservative
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LOPATEV V.N., PATSONS J.M., ESPOSITO J.J.;
LSUBMITTED (JAM-1998) to the EMBL/GenBank/DDBJ databases.
R EMBL; L22579; AAA6933.1; -.
R EMBL; U88152; AAB94377.1; -.
R EMBL; U88152; AAB94377.1; -.
R HSSP; P25942; ICDF.
R INTERPRO; IPRO01368; -.
R FPAM; PP00020; TNFR_C6; 2.
R PPAM; PP00020; TNFR_C6; 2.
R PROSITE; PS00652; TNFR_NGFR_2; 2.
R PRODOM; PD00771; -; 1.
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01-JUN-1998 (TrEMBLrel. 06, Last sequence update)
01-OCT-2000 (TrEMBLrel. 15, Last annotation update)
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057110;
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Viruses; dsDNA viruses,
Orthopoxvirus.
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115 PERNTYCKKCPDGFFSGETSSKAPCIKHTNCSTFGLLLIQ 154 : i i i i i i i i : i:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=10255;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 115 PERNTYCKKCPDGFFSGETSSKAPCIKHTNCSTFGLLLIQ 154
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                                                  YCSPVCKELQSVKQECNRTHNRVCECEEGRYLEI-----EFCLKHRSCPPGSGVVQAGT 114
                                                                                                                           YTPPNGKCKDTEYKRHNLCCLSCPPGTYASRLCDSKTNTQCTPCGSGTFTSRNNHLPACL
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                                                                                                                                                                                                Score 209.5; DB 12;
Pred. No. 3.3e-14;
19; Mismatches 76;
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Pred. No. 2.6e-14;
9; Mismatches 76;
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Db 144 SVGDVICSPCGFGTYSYTVSSADKCEPVPN-NTFNYIDVE 182

Search completed: January 27, 2001, 11:24:34 Job time: 116 sec

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GenCore version 4.5
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OM protein - protein search, using sw model
Run on: January 27, 2001, 11:24:56; Search time 17.62 Seconds (without alignments)
317.076 Million cell updates/sec
Title: US-09-389-545-2_COPY_22_194
Sequence: US-09-389-545-2_COPY_22_194
Sequence: 1 ETLPPKYLHYDPETGHQLLC......QKGNATHDNVCSGNREATQK 173
Searched: BLOSUM62
Gapop 10.0, Gapext 0.5
Searched: 88757 seqs, 32294092 residues
Total number of hits satisfying chosen parameters: 88757
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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Database : SwissProt_39:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

30 32 33	Result. 101. 194. 494. 495. 496. 496. 496. 496. 496. 496. 496. 496	
125 118.5 115 113.5	Score 300 297 270 270 270 270 270 270 270 270 270 27	
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FUR2_BROME LMG1_HUMAN WSL1_HUMAN CD27_HUMAN	;	
P30432 drosophila P30432 drosophila P11047 homo sapien C93038 h wsl-1 pro P26842 homo sapien	Description P2033 homo sapien P25119 mus musculu P27512 mus musculu P27512 mus musculu P25942 homo sapien P36941 homo sapien P36941 homo sapien P36943 shope fibro P29825 myxoma viru P3015 variola vir P50284 mus musculu P3015 variola vir P50284 mus musculu P01774 rattus norv P18519 gallus gall P20334 mus musculu Q07011 homo sapien P51867 bos taurus P1575 rattus norv P19438 homo sapien P25118 mus musculu P50555 sus scrofa P47741 mus musculu P2034 rattus norv P43489 homo sapien Q77736 sus scrofa P47741 mus musculu P22934 rattus norv P43489 homo sapien Q77736 sus scrofa P4745 homo sapien Q7736 sus scrofa P4744 mus musculu P25445 homo sapien Q7736 sus scrofa P4744 mus musculu	

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caenorhabdi	018823	LML1_CAEEL	\vdash	1557	10.6	105	G
rattus norv	P41413	PAC6_RAT	_	915	10.7	106	4
7 mus musculu	P19137	LMA1_MOUSE	ᆫ	3084	10.7	106.5	ω
drusophila	P15215	LMG1_DROME	ᆫ	1639	10.8	107	2
mus musculu	Q61483	DLL1_MOUSE	_	722	10.8	107.5	H
mus musculu	Q04592	PAC6_MOUSE	_	915	10.9	108	0
giordia lam	P21849	TSA4_GIALA	۳	713	10.9	108	39
homo sapien	P29122	PAC4_HUMAN	Н	969	11.0	109	8
giardia lam	Q03185	TS11_GIALA	ب	667	11.0	109.5	37
mus musculu	P41272	CD27_MOUSE	ب	250	11.0	109.5	8
gailus gall	P31696	AGRI_CHICK	ب	1955	11.2	111	5
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SEQUENCE OF 22-40; 65-69; 136-141; 300-306 AND 346-362. MEDLINE=91056048; PubMed=2173696;		Bic	THEORY DOTOGO FACT INMIGHICATOR TO THE TOTAL CLUB TESTINATOR THE TOTAL COLUMN TOTAL	, 2	6: 6	abelou abelou	EDT.TNF=90110015: DubMod=0153136	HENCE OF 27-31		a 87.6151-6155/1990)	į	ę,	j	Onasch N	i	FROM N.A.,	[4]		"Physical mapping and genomic structure of the human TNFR2 gene ;		.V., Desauvage F.J.,	Beltinger C.P., White P.S., Maris J.M., Sulman E.P., Jensen S.,	MEDLINE=96299745; PubMed=8661109; ; ,	SEQUENCE FROM N.A.	<u> </u>	Proc. Natl. Acad. Sci. U.S.A. 87:8331-8335(1990).	naturally occurring tumor necrosis factor inhibitor.";	A second runor necrosis ractor receptor gene product can shed a))))	NOTIFIC 1: DELEVEL W. 1: DENET S. D. SCHWEILZ F. D., ALHY M.W.,	•	MEDLINE=91045991: PubMed=2172983:	SECTION OF ERON N P	[2]	Science 248:1019-1023/1990		factor defines an unusual f		D. Solam I. Beckmann M.P. Jerzy R	PichMed=21607	SPOURNOR FROM N A	maita; Eucheria; Primates;	Metazoa; Chordata; Craniata; Vertebrata; E		TNFBR.	PII) (P80) (TNF-R2) (P75) (CD120B) (IS FACTOR RECEPTOR 2	01-OCT-2000 (Rel. 40, Last annotation update)	(Rel. 19, Last	(Rel. 17,	INCA_HUMAN SIANUARU; PRI; 461 AA.	UMAN	RESULT 1

S. C. Statement

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PROSITE; PS00652; TNFR_C6; 4.

PROSITE; PS00652; TNFR_NGFR_1; 2.

PROSITE; PS50050; TNFR_NGFR_2; 4.

Receptor; Transmembrane; Glycoprotein; Repeat; Si.
Phosphorylation; Pharmaceutical; 3D-structure.
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or send a
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                                                                                                                                                                                                                                                                                                                                                                                                                           the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed
                                                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a between the Swiss Institute of Bioinformatics and the EMBIT the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is
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Lipari M.T.,
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SIMILARITY: CONTAINS A LA-MGFR/TMFR-TYPE CYSTEINE-RICH REGION. DATABASE: NAME-PROW; NOTE-CD guide CD120b entry. WWW-"http://www.ncbi.nlm.nih.gov/prow/cd/cd120b.htm".
DATABASE: NAME-Enbrel; NOTE-Clinical information on Enbrel;
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                                                                                                                                                                     A35356; A35356.
A36007; A36007.
A36475; A36475.
                                                                                                                                                                                                                                                                US2156; AAC50622.1;

US2157; AACS0622.1;

US2157; AACS0622.1;

US2158; AAC50622.1;

US2159; AAC50622.1;

US2160; AAC50622.1;

US2160; AAC50622.1;

US2161; AAC50622.1;
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M55994; AAA36755
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U52163; AAC50622.1;
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M35857; AAA63262.1;
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t V., Villa A.R.,
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ON: TYPE I MEMBRANE PROTEIN.
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                                       MEDLINE=91246168; PubMed=1645445;
Goodwin R.G., Anderson D., Jerzy R., Davi
Copeland N.G., Jenkins N.A., Smith C.A.;
"Molecular cloning and expression of the
"receptors for tumor necrosis factor.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-MAY-1992 (Rel. 22, Created)
01-MAY-1992 (Rel. 22, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
TUMOR NECROSIS FACTOR RECEPTOR 2 PRECURSOR (TNF-R2) (P75).
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necrosis factor
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G.H., Chen E.Y., Goeddel
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Jacob C.O., Liu J.; Submitted (JAN-1996) to the

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EMBL; M59378; AAA40463.1; -.
EMBL; U39488; AAA85021.1; -.
EMBL; X87128; CAA60618.1; -.
EMBL; 838634; B38634.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -!- SUBCELLULAR LOCATION: TYPE I MEMBRANE PROTEIN REGION -!- SIMILARITY: CONTAINS A LA-NGFR/TNFR-TYPE CYSTEINE-RICH REGION
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This
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Submitted (MAY-1995)
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                                                VQAGTPERNTVCKKCPDGFFSGETSSKAPCIKHTNCSTFGLLLIQKGNATHDNVCS
                                                                                                          RTCLSCSSSCTTDQVEIRACTKQQNRVCACEAGRYCALKTHSGSCRQCMRLSKCGPGFGV
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CD40_MC
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                                                                                                                                                                                                 SIGNAL
CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      use by non-profit institutions as long modified and this statement is not removed. entities requires a license agreement (See
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   the
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=93094586; PubMed=1281194; Grimaldi J.C., Torres R., Kozak C.A., Howard M., Cockayne D.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Torres R.M., Clark E.A.;
"Differential increase of an alternatively polyadenylated species of murine CD40 upon B lymphocyte activation.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TNFRSF5 OR CD40
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    P27512;
01-AUG-1992 (Rel. 23,
01-OCT-1996 (Rel. 34,
15-JUL-1999 (Rel. 38,
                    CARBOHYD
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MGD; MGI:88336; TNF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     or send an email to license@isb-sib.ch).
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 J. Immunol.

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Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CD40_MOUSE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FUNCTION: RECEPTOR FOR A CYTOKINE LIGAND KNOWN AS CD40L
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                                                                                                                                                                                                                                                          PS00652;
PS50050;
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TNFR_NGFR_2; 4.
                                                                                                                                                                                                                                        Glycoprotein;
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4 X TNER-CYS.1.
TNER-CYS 2.
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TNER-CYS 4.
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                    N-LINKED
                                                                                                                                                            POTENTIAL
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                                                                                                                                                                                                                 POTENTIAL
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Sciurognathi; Muridae;
C791CB6D2FEA574E CRC64;
                                                                                                                                                                                                                                      Transmembrane;
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on update)
RFACE ANTIGEN CD40) (BP50) (**1 M40).
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                    (GLCNAC.
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                                                                                                                                     (POTENTIAL)
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RESULT 4
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Best Local
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                                                                                                                                                                                                                                                                                                    Singh J., Garber E., van Vlijmen H., Zheng Z., Naismith J.H., Thomas D.; "The role of polar interactions in th with its receptor CD40."; Protein Sci. 7:1124-1135(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-MAY-1992 (Rel. 22, Created)
01-MAY-1992 (Rel. 22, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
CD40L RECEPTOR PRECURSOR (B-CELL SURFACE ANTIGEN
                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collab
between the Swiss Institute of Bioinformatics and the EMBL outst
the European Bioinformatics Institute. There are no restrictions
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                                                                                                entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                            modified and this statement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Stamenkovic I., Clark E.A., Seed B.;
"A B-lymphocyte activation molecule related
factor receptor and induced by cytokines in
EMBO J. 8:1403-1410(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Primates;
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                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=98266353;
                                                                                                                                                                                                                                                                                                                                                                                                                     the ligand binding domain Proteins 27:59-70(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bajorath J., Aruffo A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=89356608; PubMed=2475341;
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                                                                      EMBL;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=97189482;
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                INTERPRO;
                                                                                                                                                                                                                                                                                                                                                                                          3D-STRUCTURE MODELING OF 26-186 IN COMPLEX WITH CD40L
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                                                                                                                                                                                                                                                          1- SUBCELLULAR LOCATION: TYPE I MEMBRANE PROTEIN.
1- TISSUE SPECIFICITY: B-CELLS AND IN PRIMARY CARCINOMAS
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                                                                                                                                                                                                               SIMILARITY: CONTAINS A LA-NGFR/TNFR-TYPE CYSTEINE-RICH DATABASE: NAME-PROW; NOTE-CD guide CD40 entry; WWW-"http://www.ncbi.nlm.nih.gov/prow/cd/cd40.htm".
                                                                                                                                                                                                                                                                                       FUNCTION: RECEPTOR FOR A
                              109535;
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                                                       S04460;
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                                                                   X60592; CAA43045.1;
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57; Conserv
               IPR001368;
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TNFR_c6;
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PubMed=9037712;
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Pred. No. 1.3e-16;
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                                                                                                                (See
                                                                                                                                                                                                                                                                                                                                   molecular recognition of CD40L
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cell receptor CD40.";
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  Ehrenfels B., Browning J.L., Walter B.N., Good "A lymphotoxin-beta-specific receptor."; Science 264:707-710(1994).
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DOMAIN
                                                                     "Construction and evaluation of a hncDNA library of human transcribed sequences derived from a somatic cell hybrid." Genomics 16:214-218(1993).
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REPEAT
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01-JUN-1994 (Rel. 29, Last sequence up
01-OCT-2000 (Rel. 40, Last annotation
LYMPHOTOXIN-BETA RECEPTOR PRECURSOR (T
2 RELATED PROTEIN) (TUMOR NECROSIS FAC
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                                                                                                            TISSUE=LIVER;
MEDLINE=93252381; PubMed=8486360;
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                                                          FUNCTION
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PS50050;
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Primates;
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     FOR THE LYMPHOTOXIN-BETA.
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PRECURSOR (TUMOR NECROSIS FACTOR
NECROSIS FACTOR C RECEPTOR).
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Pred. No. 7.2e
23; Mismatches
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TNFR-CYS 1.
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N-LINKED (GLCNAC. . .) (POTENTIAL).
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7.2e-16;
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                              R.G.,
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                                       C.F.,
POSSIBLE FUNCTFON IN
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REPEAT
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                                 CD40L RECEPTOR PRECURSOR
                                                                                     CD40_BOVIN
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                        TNFRSF5 OR
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HSSP; P25942;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INTERPRO; IPRO01368;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SUBCELLULAR LOCATION: TYPE I MEMBRANE PROTEIN. SIMILARITY: CONTAINS A LA-NGFR/TNFR-TYPE CYSTEINE-RICH REGION.
                                                                                                                                                             CKKCPDGFFSGETSSKAPCIKHTNCSTFGLLLIQKGNATHDNVCSGNRE 169
                                                                                                                                         CVPCKAGHFQNTSSPSARCQPHTRCENQGLVEAAPGTAQSDTTCKNPLE
                                                                                                                                                                                     VMGLEEIAPCTSKRKTQCRCQPGMFCAAWALECTHCELLSDCPPGTEAELKDEVGKGNNH
                                                                                                                                                                                                        LQSVKQ--ECNRTHNRVCECEEGRY-----LEIEFCLKHRSCPPGS-GVVQAGTPERNTV 120
                                                                                                                                                                                                                             YYEPQ--HRICCSRCPPGTYVSAKCSRIRDTVCATCAENSYNEHWNYLTICQLCRP-CDP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PF00020; TNFR_c6; 4.
                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PS50050;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PS00652;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Transmembrane; Glycoprotein; Repeat; Signal.
                      CD40
Metazoa; Chordata; Craniata; Vertebrata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               email to license@isb-sib.ch).
            (Bovine).
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42
82
125
169
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAA36757.1;
                                                                                      STANDARD;
                                         35, Created)35, Last sequence update)38, Last annotation update
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TNFR_NGFR_2;
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227
248
435
211
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Pred. No. 4.3e
25; Mismatches
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BY SIMILA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LYMPHOTOXIN-BETA RECEPTOR
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                                                                                      PRT;
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                                                                                                                                                                                                                                                                                    4.3e-14;
                               ANTIGEN CD40) (FRAGMENT).
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 Euteleostomi;
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Best Local S
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CARBOHYD
NON_TER
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CHAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   use by non-profit institutions as long modified and this statement is not removed. entitles requires a license agreement (See
     Viruses; dsDNA viruses, no RNA stage;
                    Shope fibroma virus (strain Kasza) (SFV)
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REPEAT
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DOMAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a colliboration between the Swiss Institute of Bioinformatics and the EMBL ( ) station -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=97281252; PubMed=9135560; Hirano A., Brown W.C., Estes D.M.; Hirano A., Brown W.C., Estes D.M.; "Cloning, expression and biological function of the bovine homologue: role in B-lymphocyte growth and differentiation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-97281252; PubMe
Hirano A., Brown W.C.,
                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                    REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TRANSMEM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Receptor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PFAM; PF00020;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; U57745; AAC48710.1; HSSP; P25942; 1CDF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Immunology 90:294-300(1997).
-!- FUNCTION: RECEPTOR FOR A CYTOKINE LIGAND KNOWN AS CD40L.
-!- SUBCELLULAR LOCATION: TYPE I MEMBRANE PROTEIN.
-!- SIMILARITY: CONTAINS A LA-NGFR/TNFR-TYPE CYSTEINE-RICH REGION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cattle.";
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                                                                                                                                                                                                                                                                                                                                                                                                                REPEAT
                                                                                                                                                          135
                                                                                                                                                                               113
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                                                                                                                                                       ATGLLDTVCEPCPLGFFSNVSSAFEKCHRWTSCERKGLVEQHVGTNKTDVVC
                                                                                                                                                                             GTPERNTVCKKCPDGFFSGETSSKAPCIKHTNCSTFGLLLIQKGNATHDNVC
                                                                                                                                                                                                      HEHRYCNPNLGLRIQS --
                                                                                                                                                                                                                                                VHSEPATACGEKQYPVNSLCCDLCPPGQKLVNDCTEVSKTECQSCGKGEFLSTWNREKYC
                                                                                                                                                                                                                                                                      LHYDPETG - - - - - - HQLLCDKCAPGTYLKQHCTVRRKTLCVPCPDHSYTDSWHTSDEC
                                                                                                                                                                                                                           ---VYCSP-VCKELQSVKQECNRTHNRVCECEEGRYL---EIEFCLKHRSCPPGSGVVQA 112
                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PS50050;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PS00652; TNFR_NGFR_1; 1. PS50050; TNFR_NGFR_2; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IPR001368; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B-cell;
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193
215
>269
>87
187
103
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                                                                                                                                                                                                                                                                                                                                                                            144
187
153
180
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                                                                                                                                                                                                                                                                                                        22.9%;
                                         Last sequence update)
Last annotation update)
SOLUBLE RECEPTOR PRECURSOR
                                                                             Created)
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                                                                                                                                                                                                                                                                                                                                                       MW;
                                                                                                                                                                                                                                                                                              20;
                                                                                                                                                                                                                                                                                                        Score 227; DB 1
Pred. No. 6e-13;
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                                                                                                                                                                                                                                                                                              Mismatches
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                                                                                                  325
         Poxviridae;
                                                                                                                                                                                                                                                                                                                                                                          (GLCNAC. . .) (POTENTIAL)
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                                                                                                  ΑA
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                                                                                                                                                                                                                                                                                            77;
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                                                                                                                                                                                                                                                                                                                   Length 269
                                          (PROTEIN
Chordopoxviri.
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Rest Local S
Matches 53
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PROSITE; PS00505; TNER_NGFR_2; 1
Receptor; Glycoprotein; Repeat; 1
SIGNAL 1 16 POTI
CHAIN 17 325 TUM
DOMAIN 27 186 4 X
REPEAT 27 62 TNEF
REPEAT 105 1147 TNEF
REPEAT 105 1147 TNEF
REPEAT 105 1147 TNEF
CARBOHYD 105 105 N-L;
CARBOHYD 205 N-L;
CARBOHYD 205 N-L;
CARBOHYD 238 238
SEQUENCE 325 AA; 35132 MW; 8
VT2_MYXVL
P29825;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Upton C., Delange A.M., McFadden G.; "Tumorigenic poxviruses: genomic organization and DNA sequence of the telomeric region of the Shope fibroma virus genome."; Virology 160:20-30(1987).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  use by non-profit institutions as long modified and this statement is not removed.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PIR; B43692; B43692.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  entities requires a license agreement (S or send an email to license@isb-sib.ch).
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"T2 open reading frame from the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=91207415; PubMed=1850261; Smith C.A., Davis T., Wignall J.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A. MEDLINE=87321103; PubMed=2820128;
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[1]
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Shem. Biophys. Res. Commun. 176:335-342(1991). FUNCTION: BINDS TO TNF-ALPHA AND BETA. PROBAB REACH CELLULAR TARGET AND THEREBY DEAMPENING ANTIVITAL EFFECTS OF THE CYTOKINE.
                                                                                                                                       CPPHTYSDSLSPTERCGTSFNYISVGFNLYPVNETSCTT:
                                                                                                                                                                                                                                                              QSVKQECNRTHNRVCECEEGRYLEIE-----FCLKHRSCPPGSGVVQAGTPERNTVCKK 123
                                                                                                                                                                                                                                                                                                                          GHQ-----LLCDKCAPGTYLKQHCTVRRKTLCVPCPDHSYTDSWHTSDECVYCSPVCKEL
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                                                                                                                                                                                                                                 LSESQPCDRTHDRVCNCSTGNYCLLKGQNGCRICAPQTKCPAGYG-VSGHTRAGDTLCEK
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                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
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4 X THER-CYS 1.
TNER-CYS 1.
TNER-CYS 2.
TNER-CYS 3.
TNER-CYS 4.
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N-LINKED (GLCNAC. .) (
N-LINKED (GLCNAC. .) (
N-LINKED (GLCNAC. .) (
N-LINKED (GLC
                                                                                                                                                                                                                                                                                                                                                                                                                      Score 226; DB 1;
Pred. No. 8.7e-13;
8; Mismatches 68;
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                     PRT;
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                                                                                                                                                                                   IKHTNCSTFGLLLIQKGNATHDNV
                     326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (See http://www.isb-sib.ch/announce/
                     A
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(POTENTIAL).
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                                                                                                                                                                                                                                                                                                                                                                                                                         36;
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                                                                                                                                       194
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RESULT 9
VC22_VARV
ID VC22_VARV
AC P34015;
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Best Local
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CARBOHYD
CARBOHYD
SEQUENCE
                                                                                                                                                                                                                                                                                                                      DOMAIN
REPEAT
REPEAT
REPEAT
REPEAT
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
MEDIJINE-91335768; PubMed-1651597;
MEDIJINE-91335768; PubMed-1651597;
Upton C., Macen J.L., Schreiber M., McFadden G.;
"Myxoma virus expresses a secreted protein with homology
"Myxoma virus expresses a secreted protein with homology
"Action receptor gene family that contributes to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-APR-1993
01-APR-1993
15-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                           CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                     PROSITE; PS00652; TNFR_NGFR_1;
PROSITE; PS00650; TNFR_NGFR_2;
Receptor; Glycoprotein; Repeat;
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            use by non-profit institutions as long as its content is in no wave modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Entropean Bioinformatics Institute. There are no restues by non-profit institutions as long as its content
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VIROLOGY 184:370-382(1991).

-!- FUNCTION: BINDS TO TWE-ALPHA AND BETA. PROBABLY PREVENTS TWE REACH CELLULAR TARGET AND THEREBY DEAMPENING THE POTENTIAL ANTIVIRAL EFFECTS OF THE CYTOKINE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TUMOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; M95181; AAA46632.
EMBL; A23729; CAA01688.
PIR; A40566; GQVZML.
HSSP; P19438; lTNR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Myxoma virus (strain Lausanne)
Viruses; dsDNA viruses, no RNA
                                                                      157
                                                                                              132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INTERPRO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Leporipoxvirus
                                                                                                                     98
                                                                                                                                           78
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SIMILARITY: CONTAINS A LA-NGFR/TNFR-TYPE CYSTEINE-RICH REGION
                                                                                                                                                                              LLCDKCAPGTYLKQHCTVRRKTLCVPCPDHSYTDSWHTSDECVYCSPVCKELQSVKQE:N
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                                                                     AVSSTETCTSSENYISVEFNLYPVNDTSCTT
                                                                                            ETSSKAPC-
                                                                                                                                          RTHNRVCECEEGRYLEIE-----FCLKHRSCPPGSGVVQAGTPERNTVCKKCPDGFFSG 131
                                                                                                                                                                LCCTSCPPGSYASRLCGPGSDTVCSPCKNETFTASTNHAPACVSCRGRCTGHLSESQSCD
                                                                                                                    KTRDRVCDCSAGNYCLLKGQEGCRICAPKTKCPAGYG-VSGHTRTGDVLCTKCPRYTYSD 156
                                                                                                                                                                                                                 1 Similarity
45; Conserv
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148
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238
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             STANDARD;
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35208 !
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186
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104
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181
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29.8%;
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Last annotation update)
SOLUBLE RECEPTOR PRECURSOR
                                                                                                                                                                                                                                                                                                                                                                                                                 NGFR_1; 2.
NGFR_2; 2.
Repeat; Signal.
                                                                                                                                                                                                                                                                          MW:
                                                                                                                                                                                                                 20;
                                                                                                                                                                                                                                                                        Score 211; DB
Pred. No. 1.7e
20; Mismatches
                                                                                           IKHTNCST 147
                                                                                                                                                                                                                                                                                                                                                                                                        POTENTIAL.
             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 stage;
                                                                      187
             349
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                                                                                                                                                                                                               DB 1; 1
L.7e-11;
hes 64;
             AA
                                                                                                                                                                                                                                                                                                                                                                                            FACTOR SOLUBLE
                                                                                                                                                                                                                                                                                    (POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
                                                                                                                                                                                                                                      Length 326;
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Best Local 9
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01-FEB-1994
01-JUN-1994
                                                                                  P50284;
D1-OCT-1996 (Rel. 34, Created)
O1-OCT-1996 (Rel. 34, Last sequence update)
O1-NOV-1997 (Rel. 35, Last annotation updat
LYMPHOTOXIN-BETA RECEPTOR PRECURSOR.
             Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                 MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REPEAT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for contentities requires a licence entities requires a licence entities.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produce between the Swiss Institute of Bioinformatics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Genes of variola and vaccinia viruses protective mechanisms."; FEBS Lett. 319:80-83(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
STRAIN=INDIA-1967
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Variola virus.
Viruses; dsDNA viruses,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            G4R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; X69198; CAA49137.1; -. EMBL; X67117; CAA47540.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 entities requires a license agreement (See http://www.isb-sib.ch/announce/
or send an email to license@isb-sib.ch).
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                                                                                LTBR OR TNFCR.
                                                                                                                                                                                                             TNRC_MOUSE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PFAM; PF00020;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INTERPRO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Shchelkunov S.N.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=93202281;
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                                                                                                                                                                                                                                                                                                                      144 SVGDVICSPCGFGTYSHTVSSADKCEPVPN-NTFNYIDVE
                                                                                                                                                                                                                                                                                                                                                            115 PERNTVCKKCPDGFFSGETSSKAPCIKHTNCSTFGLLLIQ
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; S35987; S35987.
; S46888; S46888.
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                                                                                                                                                                                                                                                                                                                                                                                                                                              YCSPVCKELQSVKQECNRTHNRVCECEEGRYLEI - - - - - EFCLKHRSCPPGSGVVQAGT 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   YDPETG---
                                                                                                                                                                                                                                                                                                                                                                                                      SCNGRCNSNQVETRSCNTTHNRICECSPGYYCLLKGSSGCKACVSQTKCGIGYG-VSGHT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         YTPPNGKCKDTEYKRHNLCCLSCPPGTYASRLCDSKTNTQCTPCGSGTFTSRNNHLPACL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                P19438; 1NCF
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48; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C22/B28
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67
349
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52; TNFR_NGFR_1;
                                                                                                                                                                                                             STANDARD;
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Blinov V.M., Sa
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108
38189
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TNFR-CYS 1.
TNFR-CYS 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 210.5; DE
Pred. No. 2e-11;
9; Mismatches
               Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NFR-CYS 1.
NFR-CYS 2.
D45D40B5C6E780EF CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sandakhchiev L.S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             stage;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      update)
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                                                                                                                      update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               is produced through a collaboration
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δÃ В οy

69 50

LQSVKQ--ECNRTHNRVCECEEGR---YLEIE--FCLKHR--SCPPGS-GVVQAGTPERN 1.18

HDVCCSRCPPGEFVFAVCSRSQDTVCKTCPHNSYNEHWNHLSTCQLCRP-CDI ::-

9

Conservative

26;

84;

Indels

13;

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SIGNAL
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Genomics 30:312-319(1995).
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REPEAT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              between
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Mouse lymphotoxin-beta receptor. Molecular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Force W.R., Walter B.N., Hession Browning J.L., Ware C.F.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=96072804; PubMed=7594541;
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STRAIN=CVB;
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                               Local
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Immunol. 155:5280-5288(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SUBCELLULAR LOCATION: TYPE I MEMBRANE PROSIMILARITY: CONTAINS A LA-NGER/TNFR-TYPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FUNCTION: RECEPTOR FOR THE LYMPHOTOXIN-BETA. POSSIBLE FUNCTION
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     1 Similarity
48; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PS00652; TNFR_NGFR_1; 2. PS50050; TNFR_NGFR_2; 3.
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VB; TISSUE=LUNG;
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iro K., Nazarea
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BY
Score 203.5; DB
Pred. No. 9.5e-11
6; Mismatches 8
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TNFR-CYS 1.
TNFR-CYS 2.
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01-AUG-1988
01-OCT-2000
                TRANSMEM
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DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE-89099903; Pubmed-2850481; Sehgal A., Patil N., Chao M.; "A constitutive process."
                                                                                                                                                                                                                                                                                                                          EMBL; M14764; AAB59544.1;
EMBL; M21621; AAA36363.1;
PIR; A2521B; GOHUN.
HSSP; P07174; 1NGR.
MIM; 162010;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                Phosphorylation; SIGNAL 1
                                                                                                                                                                                                                                                                                                                                                                                                                              entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      receptor gene."
Mol. Cell. Biol
-!- FUNCTION: L
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens (Human
Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-AUG-1988 (Rel. 08, Created)
01-AUG-1988 (Rel. 08, Last sequence update)
01-CT-2000 (Rel. 40, Last annotation update)
LOW-AFFINITY NERVE GROWTH FACTOR RECEPTOR PRECURSOR
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P08138;
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SUBSCELULIAR LOCATION: TYPE I MEMBRANE PROTEIN.
SUBSCELULIAR LOCATION: TYPE I MEMBRANE PROTEIN.
PTM: N- AND O-GLYCOSYLATED AND IS PHOSPHORYLATED ON SERINE.
SIMILARITY: CONTAINS A LA-NGFR/TMFR-TYPE CYSTEINE-RICH REGISIMILARITY: CONTAINS I DEATH DOMAIN.
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SUBUNIT: NGF RECEPTOR
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                                                                                                                                                                                                                                                  PF00020; TNFR_c6; 4. PF00531; death; 1.
                                                                                                                                                                                      PS00652; TNFR_NGFR_1; 3. PS50050; TNFR_NGFR_2; 4. PS50017; DEATH_DOMAIN; 1
                                                                                                                                                                                                                                                                                      IPR000488;
IPR001368;
                                                                                                                                                                      Neurogenesis;
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Primates;
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            LOW-AFFINITY NERVE GROWTH F
RECEPTOR.
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CYTOPLASMIC (POTENTIAL).
4 X TNFR-CYS.
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                                                                                                                                                                  Glycoprotein; Repeat;
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Matches
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P07174;
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01-APR-1988 (
01-OCT-2000 (
LOW-AFFINITY
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DOMAIN
            STRUCTURE BY NNR OF 334-418.
MEDLINE=97449145; PubMed=9305641;
Liepinsh E., Ilag L.L., Otting G.,
"NMR structure of the death domain
EMBO J. 16:4999-5005(1997).
                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
MEDLINE=8J115859; PubMed=3027580;
Radeke M.J., Misko T.P., Hsu C., Herzenberg
"Gene transfer and molecular cloning of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RAT
                                                                                                                              "Regulatory elements and transcriptional and retinoic acid of the rat nerve growtl Gene 121:247-254(1992).
                                                                                                                                                                                      MEDLINE=93077038; PubMed=1446821; Metsis M., Timmusk T., Allikmets R.,
                                                                                                                                                                                                                                                                                                                                                                                                                      Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                            TISSUE=LIVER;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
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                                                                                                                                                                                                                                                SEQUENCE OF
                                                                                                                                                                                                                                                                                    Nature 325:593-597(1987).
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(Rel. 07, Last sequence update)
(Rel. 40, Last annotation update)
(NERVE GROWTH FACTOR RECEPTOR P
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                                                                                                                                                                                                                                              FROM N.A.
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SER/THR-RICH
N-LINKED (GLCNAC. . .) (POT OF THE PROPERTY OF THE PROPER
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Pred. No. 8.6e
21; Mismatches
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TNFR-CYS 2.
TNFR-CYS 3.
TNFR-CYS 4.
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Sciurognathi; Muridae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RECEPTOR PRECURSOR
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اسم. اور
                                Ibanez C.F.; of the p75 n
                                                                                                                                                growth
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                                  neurotrophin
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                                                                                                                                                                                                                                                                                                                                                                                                                      Murinae;
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LOW AFFINITY RECEPTOR WHICH CAN BIND TO NGF, BDNF

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Matches 43
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TRANSMEM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PROSITE; PS00652; TNFR_NGFR_1; 3.
PROSITE; PS50050; TNFR_NGFR_2; 4.
PROSITE; PS50017; DEATH_DOMAIN; 1
Receptor; Neurogenesis; Transmemb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PFAM; PF00020; TNFR_c6; PFAM; PF00531; death; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REPEAT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FUNCTION: LOW AFFINITY NT-3, AND NT-4.
SUBUNIT: NGF RECEPTOR BOND FORMATION.
APCIKHTNC
                                                    THNRVCECEEGRYLEIE--FCLKHRSCPPGSGVVQAGTPERNTVCKKCPDGFFSGETSSK
                                                                                                                                CDKCAPGTYLKQHCTVRRKTLCVPCPDH-SYTDSWHTSDECVYCSPVCKELQSVKQECNR
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                               ADDAVCRCAYGYYQDEETGHCEACSVCEVGSGLVFSCQDKQNTVCEECPEGTYSDEANHV
                                                                                              CKACNLGEGVAQPCGA-NQTVCEPCLDNVTFSDVVSATEPCKPCTE-CLGLQSMSAPCVE
                                                                                                                                                                                   Similarity
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YLATED AND IS PHOSPHORYLATED ON SERINE.
A LA-NGFR/TNFR-TYPE CYSTEINE-RICH REGI
1 DEATH DOMAIN.
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                                                                                                                                                                   23;
                                                                                                                                                                                                                                                SER/THR-RICH.
DEATH DOMAIN.
BY SIMILARITY.
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EXTRACELLULAR (POTENTIAL POTENTIAL).

CYTOPLASMIC (POTENTIAL).

4 X TNFR-CYS.
                                                                                                                                                                 Score 188.5;
Pred. No. 1.9e
23; Mismatches
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No. 1.
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RESULT 13

RESULT 13

REFR_CHICK

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DT 01.NOV-1990 (
DT 01.OCT-2000 (
DT 01.OCT-200 (
DT 01.OCT-2000 
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                                                                                                                                                                                                                                                                                                                                                                                                                                                        INTERPRO; IPR000488; -.
INTERPRO; IPR001368; -.
PFAM; PF00020; TNFR_C6;
PFAM; PF00531; death; 1.
PROSITE; PS00652; TNFR_NG
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01-OCT-2000 (
LOW-AFFINITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Heuer J.G., Fatemie-Nainie S., Wheeler E.F., Bothwell M.; "Structure and developmental expression of the chicken NGF Dev. Biol. 137:287-304(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Large T.H., Weskamp
Shooter E.M., Reicha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gallus gallus
Eukaryota; Mei
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (GP80-LNGFR)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE OF 21-416 FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                 Phosphorylation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Structure and developmental expression receptor in the chicken central nervous
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NT-3, AND
SUBUNIT: N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SUBCELLULAR LOCATION: TYPE I MEMBRANE PROTEIN.

PTM: N- AND O-GLYCOSYLATED AND IS PHOSPHORYLATED ON SERINE.

SIMILARITY: CONTAINS A LA-NGFR/TNFR-TYPE CYSTEINE-RICH REGION.

SIMILARITY: CONTAINS 1 DEATH DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JN0006; JN0006.
A60504; A60504.
P07174; INGR.
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PS50050;
                                                                                                                                                                                                                                                                                                                                                                                                                       PS50017;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AND NT-4
                                                                                                                                                                                                                                                                                                                                                                                                     Neurogenesis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (Rel. 16,
(Rel. 16,
(Rel. 40,
 29
240
262
23
58
101
141
1188
101
1188
333
333
36
39
59
78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NGF RECEPTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (P75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Aves; Neognathae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (Chicken).
tazoa; Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Reichardt L.F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LOW AFFINITY RECEPTOR WHICH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                 Signal.
                                                                                                                                                                                                                                                                                                                                                                                             TNFR_NGFR_2; 3.
DEATH_DOMAIN; 1.
nesis; Transmembrane;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ICD).
                                                                                                                                                                                                                                                                                                                                                                                                                                                        TNFR_NGFR_1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PubMed=2560385;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             16, Last sequence update)
40, Last annotation update)
GROWTH FACTOR RECEPTOR PRECURSOR (NGF RECEPTOR)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAN
                                                                                                                                                                                                          4 X TNFR-CYS.
TNFR-CYS 1.
TNFR-CYS 2.
                                                                                                                                                                     TNFR-CYS
TNFR-CYS
TNFR-CYS
                                                                                                                                                                                                                                                                                                                        POTENTIAL.
LOW-AFFINITY
RECEPTOR.
                                                                                                                                 DEATH
   78
78
78
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78
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78
                                                                                                                                                       SER/THR-RICH
                                                                                                                                                                                                                                                                 POTENTIAL.
CYTOPLASMIC
                                                                                                                                                                                                                                                                                                         EXTRACELLULAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FORM A HOMODIMER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Craniata; Vertebrata; Euteleostomi, Galliformes; Phasianidae; Phasianidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
EATH DOMAIN.
Y SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Radeke M.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           416
                                                                                                                                                                                                                                                                                                                                                                                                   Glycoprotein; Repeat;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of the system.
                                                                                                                                                                                                                                                                   (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                            NERVE
                                                                                                                                                                                                                                                                                                     (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               nerve
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TO NGF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               growth factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DISULFIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      T.P
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- C. S. Salaker

a

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RESULT 14
41BB_MOUSE
· CCCCCCCCCRTRRRRR
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Best Local
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DISULFID
DISULFID
DISULFID
DISULFID
CARBOHYD
CONFLICT
CONFLICT
CONFLICT
                                                                                                                                           Pollok K.E., Kim
Kwon B.S.;
                                                                                                                                                                                                                                                                                                                                                                                 01-FEB-1991 (Rel. 17, Created)
01-FEB-1991 (Rel. 17, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
4-1BB LIGAND RECEPTOR PRECURSOR (T-CELL ANTIG
TNERSE9 OR ILA OR LY63 OR CD137 OR CD157.
                                                                                                                              Kwon B.S.;
"Inducible T
                                                                                                                                                                CHARACTERIZATION, MEDLINE-93139510;
                                                                                                                                                                                                                            MEDLINE-94179805; PubMed-8133039;
MEDLINE-94179805; PubMed-8133039;
                                                                                                                                                                                                                    Kwon B.S., Kozak C.A.
"Genomic organization
                                                                                                                                                                                                                                                      SEQUENCE FROM STRAIN-BALB/C
                                                                                                                                                                                                                                                                                                          MEDLINE=89184547; Pu
Kwon B.S., Weissman
                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                         Mus musculus (Mouse)
                                                                                                                    function.";
                                                                                                                                                                                                                                                                                                 "cDNA sequences of
                                                                                                                                                                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                           P20334;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    I BB_MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           153
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20
                   SUBCELLULAR LOCATION: TYPE I MEMBRANE PROTEIN.
TISSUE SPECIFICITY: EXPRESSED ON THE SURFACE OF ACTIVAT INDUCTION: OPTIMAL BY PMA AND IONOMYCH.
SIMILARITY: CONTAINS A LA-NGFR/TNFR-TYPE CYSTEINE-RICH
                                                            ACTIVE DURING T CELL ACTIVATION. SUBUNIT: PRINCIPALLY AN HOMODIMER, ASSOCIATES WITH P56-LCK.
                                                                                              FUNCTION: RECEPTOR
                                                                                                                                                                                                           .gen 4-1BB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VDPCLPCTICEE-NEVMVKECTATSDAEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KAPCIKHTNCSTFGLLLIQKGNATHDNVC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CKACNLGEGVVQPCGV-NQTVCEPCLDSVTYSDTVSATEPCKPCTQ-CVGLHSMSAPCVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CDKCAPGTYLKQHCTVRRKTLCVPCPDH-SYTDSWHTSDECVYCSPVCKELQSVKQECNR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         THNRVCECEEGRYLEIEF - - - CLKHRSCPPGSGVVQAGTPERNTVCKKCPDGFFSGETSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                              FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 416
                                                                                                           150:771-781(1993).
                                                                                                                                                                                                                                                                                    nces of two inducible T-cell genes."; Acad. Sci. U.S.A. 86:1963-1967(1989).
                                                                                                                                                                                                152:2256-2262(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                cell antigen 4-1BB.
                                                                                                                                                                                                                                                                 N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    STANDARD;
                                                                                                                                                    Y.-J., Zhou
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -YFQDELSGSCKECSICEVGFGLMFPCRDSQDTVCEECPEGTFSDEANF
                                                                                                                                                                AND SEQUENCE OF PubMed=7678621;
                                                                                                                                                                                                                                                                                                                     PubMed=2784565;
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138
156
172
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30
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                                                                                              FOR THE PUTATIVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    . 98
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                                                                                                                                                                                                                     chromosomal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BY SIMILARITY.
C-> Y (IN REF. 2).
T-> K (IN REF. 2).
N-> R (IN REF. 2).
N-> R (IN REF. 2).
                                                                                                                                                     2.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score
Pred.
                                                                                                                                                                                                                                                                                                                                                   Craniata; Vertebrata; | Sciurognathi; Muridae;
                                                                                                                                                                            OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6BCEAAB54F4D2D56 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                 Analysis
                                                                                                                                                     Hurtado J.,
                                                                                                                                                                          25-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    184; DB 1;
No. 4.5e-09;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                164
                                                                                                                                                                                                                                                                                                                                                                                                                                                     256
                                                                                                                                                                                                                     localization
                                                                          BUT
                                                                                                CYTOKINE
                                                                                                                                                                                                                                                                                                                                                                                                ANTIGEN
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                                                                                                                                 of
                                                                          ALSO
                                                                                                                                                      Kin
                                                                                                                                 expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 416,
                                                                                                                                                                                                                                                                                                                                                                                              4-1BB)
                                                                          FOUND
                                                                                                4-1BBL.
                                                                                                                                                     K.K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                     of.
                                                                                                                                                                                                                                                                                                                                                    Euteleostomi;
; Murinae; Mus
                                          ACTIVATED T-CELLS
                                                                          AS
                                                                                                                                                                                                                     the
                                                                                                                                                      Pickard
                                                                          ×
                                                                                                POSSIBLY
                                                                                                                                                                                                                     T-cell
                                                                          MONOMER
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                                                                                                                                                      R.T.,
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RESULT 15
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Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                       41BB HUMAN STANDARD; PKI; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007011; 2007
ligand.
Eur. J.
[2]
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SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Entrepean Bioinformatics Institute. There are no restuse by non-profit institutions as long as its content modified and this statement is not removed. Usage by and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REPEAT
REPEAT
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REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HSSP; P25942; 1CDF.
MGD; MGI:1101059; TNI
INTERPRO; IPR001368;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; J04492; AAA40167.1;
EMBL; U02567; AAA93113.1;
EMBL; B32393; B32393.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                            Alderson M.R., Sm. Falk B., Roux E.,
                                                                                                                 MEDLINE=94374434; PubMed=8088337;
                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                  Mammalia;
                                                                                                                                                                                                                  Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROSITE; PS00652; TNFR_NGFR_1; PROSITE; PS50050; TNFR_NGFR_2; Receptor; Glycoprotein; Repeat;
                                                                                                                                       TISSUE-BLOOD
                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REPEAT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PFAM; PF00020;
                                                          Molecular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             90
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CDKCAPGTYLKQHCTVRRKTLCVPCPDHSYTDSWHTSDECVYCSPVCKELQSVKQECNRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CRPWTNCSLDGRSVLKTGTTEKDVVC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HNAECECIEGFHCLGPQCTRCEKDCRPGQELTKQG-----
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    P25942; 1CDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              44;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                Eutheria;
                                                                                                                                                                                                                Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    25
188
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118
                                                                                                                                                                                                                                      (Human)
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                                                          biological
                                                                                               Smith
                      24:2219-2227(1994)
                                                          ith C.A., Tough T.W., Davis-Smith T., An
Baker E., Sutherland G.R., Din W.S., Go
ological characterization of human 4-1BB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TNFRSF9
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187
208
256
256
159
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159
117
117
                                                                                                                                                                                                Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             138
27598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                17.8%;
30.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Repeat;
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THER-CYS 1.

THER-CYS 2.

THER-CYS 3.

THER-CYS 3.

THER-CYS 4.

N-LINKED (GLCNAC. . . ) (POTENTIAL.)

N-LINKED (GLCNAC. . . ) (POTENTIAL.)

MW; 93A10D03C60813C4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 177; DB Pred. No. 1.2e 21; Mismatches
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CYTOPLASMIC
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.2e-08;
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Best Local Similarity
Matches 44; Conserv
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CONFLICT
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EMBL; L12964; AAA62478.1; -.
HSSP; P19438; 1EXT.
MIM; 602250; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Zhou Z., K
Kwon B.S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    PEAM; PEODO20; THER_C6; 2.

PROSITE; PS00652; THER_NGFR_1; 1.

PROSITE; PS50050; THER_NGFR_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PFAM; PF00020; TNFR_c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE-94085794; PubMed-8262389;
Schwarz H., Tuckwell J., Lotz M.;
'A receptor induced by lymphocyte activation (ILA): a new member of the human nerve-growth-factor/tumor-necrosis-factor receptor
                                                                                                                                                                                                                                                                                                                                                   DOMAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                         Receptor;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Characterization of human homologue of 4-1BB and its ligand.";
Immunol. Lett. 45:67-73(1995).

-i- FUNCTION: RECEPTOR FOR THE PUTATIVE CYTOKINE 4-1BBL. POSSIBLY ACTIVE DURING T CELL ACTIVATION.

-i- SUBCELLULAR LOCATION: TYPE I MEMBRANE PROTEIN.

-i- TISSUE SPECIFICITY: EXPRESSED ON THE SURFACE OF ACTIVATED T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gene 134:295-298(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=95347766; PubMed=7622190;
Zhou Z., Kim S., Hurtado J., Lee Z.H., Kim K.K., Pollok K.E.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
121 CFGTFNDQ--KRGICRPWTNCSLDGKSVLVNGTKERDVVC 158
                        125 PDGFFSGETSSKAPCIKHTNCSTFGLLLIQKGNATHDNVC 164
                                                          72
                                                                                     66
                                                                                                                 16 LNFERTRSLODPCSNCPAGTF----CDNNRNQICSPCPPNSFSSAGGQRTCDICRQCKGV 71
                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SIMILARITY: CONTAINS A LA-NGFR/TNFR-TYPE CYSTEINE-RICH REGION DATABASE: NAME-PROW; NOTE-CD guide CDw137 entry; WWW-"http://www.ncbi.nlm.nlh.gov/prow/cd/cdw137.htm".
                                                                                    CKELQSVKQECNRTHNRVCECEEGRYLEIEFC-LKHRSCPPGSGVVQAGTPERNTVCKKC 124
                                                                                                                                          LHYDPETGHOLLCDKCAPGTYLKOHCTVRRKTLCVPCPDHSYTDS--WHTSDECVYCSPV 65
                                                       FR----TRKECSSTSNAECDCTPGFHCLGAGCSMCEQDCKQGQELTKKG-----CKDC
                                                                                                                                                                                                                                                                                                                                                                                                                                       Glycoprotein;
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255 AA;
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18 186
187 213
14 255
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27899 MW;
                                                                                                                                                                           Conservative
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187
187
214
47
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47
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138
                                                                                                                                                                       16.8%; Score 167; DB 1;
27.5%; Pred. No. 8.3e-08;
tive 24; Mismatches 72
                                                                                                                                                                                                                                                                                                                                                                                                                       Repeat; Signal; Transmembrane POTENTIAL.
                                                                                                                                                                                                                                              TNFR-CYS 3.

N-LINKED (GLCNAC. . .) (POTENTIAL).

N-LINKED (GLCNAC. . .) (POTENTIAL).

K -> R (IN REF. 2).

K -> R (IN REF. 2).
                                                                                                                                                                                                                                                                                                                      TNFR-CYS
                                                                                                                                                                                                                                                                                                                                                 CYTOPLASMIC (POTENTIAL).
3 X TNFR-CYS.
                                                                                                                                                                                                                                                                                                                                                                              EXTRACELLULAR (POTENTIAL). POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                            4-1BB LIGAND RECEPTOR.
                                                                                                                                                                                                  Length 255;
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Search completed: January 27, 2001, 11:24:57 Job time: 139 sec

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OM protein - protein search,
                                       Run on:
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Search time 25.38 Seconds (without alignments) 462.837 Million cell upda
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Title: Perfect score: US-09-389-545-2_COPY_22_194 993

Million cell updates/sec

ETLPPKYLHYDPETGHQLLC.... .QKGNATHDNVCSGNREATQK 173

bring table: BLOSUM62 Gapop 10.0 , Gapext 0.5

195891 segs, 67900655 residues

Total number of hits satisfying chosen parameters: 195891

Minimum DB Maximum DB seq length: 2000000000 length: 0

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

pir1:*
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Database

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

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595	335	314	277	461	272	461	454	454	455	271	255	255	256	416	425	427	349	349	348	326	325	435	277	305	289	474	461	459	Length		
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ALIGNMENTS

gene murine tumour necrosis factor receptor 2 protein - mouse (fragment) C;Species: Mus musculus (house mouse) C;Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 23-Jul-1999 C; Accession: I48854

R;Powell, E.E.; Wicker, L.S.; Peterson, L.B.; Todd, J.A. Mamm. Genome 5, 726-727, 1994

A; Title: Allelic variation of the type 2 tumor necrosis factor receptor gene. A; Reference number: I48854; MUID:95178848 A; Reference number: A; Accession: I48854

A;Status: preliminary; translated from GB/EMBL/DDBJA;Molecule type: mRNAA;Residues; 1-459 <RES>

A;Cross-references: EMBL:X76401; NID:g433830; PiDN:CAA53981.1; PID:g: <831 C;Superfamily: tumor necrosis factor receptor type 2; NGF receptor repeat homology F;151-188/Domain: NGF receptor repeat homology <NGF>

밁 80 밁 δÃ В Query Match
Best Local Similarity
Matches 62; Conserv 137 ASSRAPNGNVLCKACAPGTFSDTTSSTDVCRPHRICS----ILAIPGNASTDAVCA 1 · · 110 VQAGTPERNTVCKKCPDGFFSGETSSKAPCIKHTNCSTFGLLLIQKGNATHDNVCS: ,, 57 DECVYCSPVCKELQSVKQECNRTHNRVCECEEEGRYLEIEF-----CLKHRSCPPGSGY 109 17 10 YDPETGH------QLLCDKCAPGTYLKQHCTVRRKTLCVPCPDHSYTDSWHTS 55 RTCLSCSSCSTDQVETRACTKQQNRVCACEAGRYCALKTHSGSCRQCMRLSKCGPGF " YKPEPGYECQISQEYYDRKAQMCCAKCPPGQYVKHFCNKTSDTVCADCEASMYTQVWNOF 76 Conservative 17; Mismatches 30.2%; Score 300; DB z; ... Pred. No. 1.2e-16; """ matches 73; Length 459; Indels 24; Gaps : 36 ω --

tumor necrosis factor receptor type 2 precursor - human kyAlternate names: 75K tumor necrosis factor receptor C;Species: Homo sapiens (man) C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999 C;Accession: A35356; A36475; A48416; A36007; A23666; B35010; I38094 R;Smith, C.A.; Davis, T.; Anderson, D.; Solam, L.; Beckmann, M.P.; Jerzy, R.; Dower, Science 248, 1019-1023, 1990 Science 248, 1019-1023, 1990 Species and unusual family of cellular a A;Reference number: A35356; MUID:90260639 A;Accession: A35356

A; Molecule type: mRNA A; Residues: 1-461 <SMI>

A; Status: preliminary

A;Residues: 1-461 <SMI> A;Cross-references: GB:M32315; NID:g189185; PIDN:AAA59929.1; PID:g18:186

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K.K.;

Squires

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C;Superfamily: tumor necrosis factor receptor type 2; Reywords: duplication; glycoprotein; receptor; transmers: 1-22/Domain: signal sequence #status predicted <SIG>F;23-416/Product: tumor necrosis factor receptor type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             R:Kuhnert, P.; Kemper, O.; Wallach, D. Gene 130, 381-386, 1994
A;Title: Cloning, sequencing and partial functional characterization of the A;Reference number: 138094; MUID:95121934
A;Accession: 138094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Reference number: A35010; MUID:90110215
A;Accession: B35010
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A;Title: A second tumor necrosis factor receptor gene product can shed a ray. Reference number: A36475; MUID:91045991
                                                                                                                  F;120-162/Domain: NGF receptor repeat homology <NG3>F;164-201/Domain: NGF receptor repeat homology <NG4>
                                                                                                                                                                                                  F;40-76/Domain: NGF receptor repeat homology <NG1>F;78-119/Domain: NGF receptor repeat homology <NG2>
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A; Residues: 1-37 < RE
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J. Hiol. Chem. 265, 1531-1536, 1990
J. Title: Two tumor necrosis factor-b
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Cytokine 2, 231-237,
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A; Title: Purification and
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A;Accession: A36007
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A;Note: sequence extracted from NCBI backbone (NCBIN:63368, NCBIP:63371)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Molecule type: mRNA; A; Residues: 23-461 < DE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Molecule type: protein
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                                                                                                                                                                                                                                                                                                                                                                                                         Note: the list of introns is incomplete Superfamily: tumor necrosis factor receptor type 2; NGF receptor repeat homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cross-references: GDB:125914; OMIM:19119:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Status: preliminary
                                          280-461/Domain:
                                                                                262-279/Domain:
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Gene: GDB:TNFR2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cross-references:
    193/Binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   23-461 <DEM>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   <RES>
    site:
                                          transmembrane #status predicted <TMN> intracellular #status predicted <INT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL: X80021; NID: g666044; PIDN: CAA56324.1; PID: g825701
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(Asn)
    (covalent)
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#status predicted
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R.; Brockhaus,
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Query Match

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C;Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 23-Ji 1999 C;Accession: B38634; A40254; S54816 R;Lewis, M.; Tartaglia, L.A.; Lee, A.; Bennett, G.L.; Rice, G.C.; Wo:: G.H.W.; Chen, Proc. Natl. Acad. Sci. U.S.A. 88, 2830-2834, 1991 A;Title: Cloning and expression of cDNAs for two distinct murine tumor necrosis facto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Cross-references: EMBL:X87128; NID:g809043; PIDN:CAA60618.1; PID:g809044 C;Superfamily: tumor necrosis factor receptor type 2; NGF receptor repeat C;Keywords: cytokine receptor; transmembrane protein F;1-22/Domain: signal sequence #status predicted <SIG>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Cross-references: GB:M60469; NID:g199827; PIDN:AAA39752.1; PID:R;Goodwin, R.G.; Anderson, D.; Jerzy, R.; Davis, T.; Brannan, C.I Mol. Cell. Biol. 11, 3020-3026, 1991
A;Title: Molecular cloning and expression of the type 1 and type A;Reference number: A40254; MUID:91246168
A;Accession: A40254
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F;40-77/Domain: NGF receptor repeat homology <NG1>
F;79-120/Domain: NGF receptor repeat homology <NG2>
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A; Residues: 1-22 <KIS>
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A;Accession: S54816
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Cross-references: GB:M60469; NID:g199827; PIDN:AAA39752.1; PID:g19982: R;Kissonerghis, M.; Fellowes, R.; Feldmann, M.; Chernajovsky, Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Reference number: A38634; MUID:91187885-A;Accession: B38634
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A; Residues: 1-474 <GOO>
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                                                                                                                                            DECVYCSPVCKELQSVKQECNRTHNRVCECEEGRYLEIEF-----CLKHRSCPPGSGV----9
                                                                                                                                                                                           YKPEPGYECQISQEYYDRKAQMCCAKCPPGQYVKHFCNKTSDTVCADCEASMYTQVWNQF
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35.2%;
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                                                                                                                                                                                                                                                                                                             Score 297; DB 2
Pred. No. 2e-16;
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5; Mismatches 75;
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A; Molecule type: mRNA
A; Molecule type: mRNA
A; Residues: 1-305 <TOR>
A; Cross-references: GB: M83312; NID: g1553058
A; Note: sequence extracted from NCBI backbone (NCBIN: 75206, NCBIP: 75207)
A; Note: this translation is not annotated in GenBank entry MUSCD40A, rel.
C; Comment: For an alternative splice form, see PIR: A46515
C; Superfamily: CD27 antigen; NGF receptor repeat homology
C; Keywords: alternative splicing; transmembrane protein
F; 105-144/Domain: NGF receptor repeat homology <NGF>
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A;Tille: Genomic structure and chromosomal mapping of the murine CD40 gene.
A;Reference number: A46515; MUID:93094586
A;Accession: A46515
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C:Date: 18-Jun-1993 #sequence_revision 18-Nov-1994
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Reference number: A46476; A; Accession: A46476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        J. Immunol. 148, 620-626, 1992
J. Immunol. 148, 620-626, 1992
A;Title: Differential increase of an alternatively polyadenylated
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F;105-144/Domain: NGF receptor repeat homology <NGF>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A:Status: preliminary; not compared A:Molecule type: nucleic acid A;Residues: 1-289 <GRI>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C; Accession: A46515
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                                                                                                                                                                  Query Match
Best Local S
Matches 57
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cell-associated surface molecule CD40,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Accession: A46476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Species: Mus musculus (house mouse)
Date: 18-Jun-1993 #sequence_revision
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                                                                                                                                                                  Local Similarity.
hes 57; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   63
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SPYCKELQSYKQECNRTHNRYCECEEEGRYL---EIEFCLKHRSCPPGSGYVQAGTPERNT 119 : | | : | | | | | | | | : | : | : |
                                                                      QYLH-DGQ-----CCDLCQPGSRLTSHCTALEKTQCHPCDSGEFSAQWNREIRCHQHRHC
                                                                                                                  KYLHYDPETGHQLLCDKCAPGTYLKQHCTVRRKTLCVPCPDHSYTDSWHTSDEC---VYC 62
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QYLH-DGQ-----CCDLCQPGSRLTSHCTALEKTQCHPCDSGEFSAQWNREIRCHQHRHC
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57; Conser
                                                                                                                                                                     Conservative
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                                                                                                                                                                                          27.2%;
                                                                                                                                                                  26;
                                                                                                                                                                                     Score 270; DB 2;
Pred. No. 1.9e-14;
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.8e-14;
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                                                                                                                                                                  68;
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                                                                                                                                                                  14;
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                     A; Reference number: I54182; MUID: 93252381 A; Accession: I54182
                                                                   A; Title: Construction and evaluation of a
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C;Accession: I54182
R;Baens, M.; Chaffanet, M.; Cassiman, J.J.;
Genomics 16, 214-218, 1993
                                                                      tumor necrosis factor receptor 2-related protein - human
C;Species: Homo sapiens (man)
C;Date: 24-May-1996 #sequence_revision 24-May-1996 #text_change 17-Mar-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A.Map position: 20q12-20q13.2

A.Map position: 20q12-20q13.2

C.Superfamily: CD27 antigen; NGF receptor repeat homology

C.Superfamily: CD27 antigen; NGF receptor repeat homology

C.Keywords: B-cell; glycoprotein; phosphoprotein; surface antigen; transmembrane

F.1-20/Domain: signal sequence #status predicted <SIG>
F.21-277/Product: B-cell activation protein CD40 #status experimental <MAT>
F.21-193/Domain: extracellular #status predicted <EXT>

F.21-193/Domain: strancellular #status predicted <EXT>
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R;Braesch-Andersen, S.; Paulie, S.; Koho, H.; Nika, H.;
J. Immunol. 142, 562-567, 1989
A;Title: Biochemical characteristics and partial amino
A;Reference number: A60771; MUID:89093941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R;Stamenkovic, I.; CL
EMBO J. 8, 1403-1410,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C;Species: Homo sapiens (man)
C;Date: 03-Jun-1993 #sequence_revision 03-Feb-1994 #text_change
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δõ
                                                                                                                                                                                                                                                   Дb
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  F;194-215/Domain: transmembrane #status predicted <TMM>F;216-277/Domain: intracellular #status predicted <CYT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Molecule type: protein A; Residues: 21-50 <BRA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Title: A B-lymphocyte activation molecule related A; Reference number: S04460; MUID:89356608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C; Accession: S04460;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N; Alternate names: B-cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        B-cell activation protein CD40 precursor -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Gene: GDB:CD40
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local S
Matches 58
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                                                                                                                                                                                                                                                                                                                                                                                                                                             VHPEPPTACREKQYLINSQCCSLCQPGQKLVSDCTEFTETECLPCGESEFLDTWNRETHC
                                                                                                                                                                                                                                                 TGVSDTICEPCPVGFFSNVSSAFEKCHPWTSCETKDLVVQQAGTNKTDVVC
                                                                                                                                                                                                                                                                            TPERNTVCKKCPDGFFSGETSSKAPCIKHTNCSTFGLLLIQKGNATHDNVC
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                                                                                                                                                                                                                                                                                                                                                                         ---YYCSPVCKELQSVKQECNRTHNRVCECEEGRYL---EIEFCLKHRSCPPGSGVVQAG 113
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33.9%;
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S.; Koho, H.; Nika, H.; Aspenstroem, P.;
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Pred. No. 9e-1
23; Mismatches
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preliminary; translated from GB/EMBL/DDBJ

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Marynen,

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C;Accession: Arrest
R;Upton, C.; Macen, J.L.;
Virology 184, 370-382, 19
Virology 184, 370-382, 19
                                                                             T2 protein - myxoma virus (strain Lause
C;Species: myxoma virus
C;Date: 31-Dec-1992 #sequence_revision
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GQVZML
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A; Title: Tumorigenic poxyiruses: genomic organization A; Reference number: A43692; MUID:87321103
A; Accession: B43692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       72 protein - rabbit fibroma virus
C;Species: rabbit fibroma virus, Shope
C;Date: 30-Sep-1993 #sequence_revision
C;Accession: B43692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C; Genetics:
A; Gene: GDB: LTBR
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A; Residues: 1-435 <RES>
A; Cross-references: GB:L04270;
A; Title:
                                                                                                                                                                                                                                                                                                 В
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A; Residues: 1-325 \CUPT>
A; Cross references: GB: M17433
C; Superfamily: myxoma virus T
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Best I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Superfamily: myxoma virus T2 protein; NGF receptor repeat homology;64-105/Domain: NGF receptor repeat homology <NG2>;106-147/Domain: NGF receptor repeat homology <NG3>
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Best Local
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                                                                                                                    protein - myxoma virus (strain Lausanne)
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                                                                                                                                                                                                                                                                                                                                                                                                              15 GHQ-----LLCDKCAPGTYLKQHCTVRRKTLCVPCPDHSYTDSWHTSDECVYCSPVCKEL
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                                                                                                                                                                                                                                                                                                                                   QSVKQECNRTHNRVCECEEGRYLEIE-----FCLKHRSCPPGSGVVQAGTPERNTVCKK 123
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                                                                                                                                                                                                                                                                                               LSESQPCDRTHDRVCNCSTGNYCLLKGQNGCRICAPQTKCPAGYG-VSGHTRAGDTLCEK
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HYDPETGHQLLCDKCAPGTYLKQHCTVRRKTLCVPCPDHSYTDSWHTSDECVYCSPVCKE 68
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50; Conserv
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                                             Schreiber, M.; Mcfadden,
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Pred. No. 3.8e-12;
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Pred.
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30-Sep-1993
                                                                               31-Dec-1992 #text_change
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No. 5.9e-11
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     protein
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         with
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                                                                                   18-Jun-1999
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       tumor necrosis
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C:Species: variola virus
C:Date: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 08-Oct-1999
C:Accession: D36858; S46888; S32385; S35987
R;Blinov, V.M.
                                                                                                        RESULT
D36858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Cross-references: EMBL:L22579; NID:g623595; A;Experimental source: strain Bangladesh 1975 C;Superfamily: myxoma virus T2 protein; NGF re
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R;Massung, R.F.; Esposito, J.
Nature 366, 748-751, 1993
A;Title: Potential virulence
                                                                    gene G4R protein - variola virus
N;Alternate names: B28R protein
                                                                                                                                                                                                                                                    Вρ
                                                                                                                                                                                                                                                                                    Qy
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C:Date: 22-Oct-1999 #sequence_revision 22-Oct-1999
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F;64-105/Domain: NGF receptor repeat homology <NG2>
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A; Accession: T28623
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A; Residues: 1-326 <UPT>
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Best Local Similarity
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                                                                                                                                                                                                                                                                                  YCSPVCKELQSVKQECNRTHNRVCECEEGRYLEI-----EFCLKHRSCPPGSGVVQAGT 114
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                                                                                                                                                                                                                                                                                                                                                                                              48;
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45; Conser
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29.8%;
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Pred. No. 9
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R: Shchelkunov, S.N.; Totmenin, A. submitted to GenBank, March 1998 A; Description: Analysis of the cc A; Reference number: A72150 A; Accession: D72175 A; Status: preliminary A; Molecule type: DNA A; Residues: 1-349 < SHC> A; Cross-references: GB:Y16780; N174; Experimental source: strain Gar C; Genetics: A; Gene: GZR C; Superfamily: myxoma virus T2 pr
                                                                                                                                                                                                                                                                                                          C; Species: variola (C; Date: 24-Nov-1999)
C; Accession: D72175
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C;Superfamily: myxoma virus T2 protein; NGF receptor F;32-66/Domain: NGF receptor repeat homology <NGF>
F;68-109/Domain: NGF receptor repeat homology <NG2>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F; 68-109/Domain: |
F; 110-151/Domain:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Experimental source: strain India-1967, ssp. C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A:Molecule type: DNA
A:Residues: 31-168 <SHC>
A:Cross-references: EMBL:X69198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEBS Lett. 319, 80-83, 1993
A;Title: Genes of variola and vaccinia viruses necessary to
A;Reference number: S32385; MUID:93202281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          submitted to GenBank, November A;Description: not shown. A;Reference number: A36859 A;Accession: D36858
                                                                                                                                                                                                                                                                                                                                                                              G2R protein – variola minor virus (strain Garcia-1966)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Cross-references: EMBL:X67117; NID:g516428; PIDN:CAA47540.1; A;Experimental source: strain India-1967, isolate Ind3 R;Shchekunov, S.N.; Blinov, V.M.; Sandakhchiev, L.S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Accession: S32385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: DNA
A; Residues: 1-349 <B
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Molecule type: DNA
Residues: 1-349 <KOL>
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Best Local 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            115 PERNTYCKKCPDGFFSGETSSKAPCIKHTNCSTFGLLLIQ 154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               85
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         10 YDPETG----
                                                                                                                                                                                                                                                                                                                         24-Nov-1999 #sequence_revision 24-Nov-1999 #text_change 20-Jun-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SVGDVICSPCGFGTYSHTVSSADKCEPVPN-NTFNYIDVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          YCSPVCKELQSVKQECNRTHNRVCECEEGRYLEI-----EFCLKHRSCPPGSGVVQAGT 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         YTPPNGKCKDTEYKRHNLCCLSCPPGTYASRLCDSKTNTQCTPCGSGTFTSRNNHLPACL 84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SCNGRCNSNQVETRSCNTTHNRICECSPGYYCLLKGSSGCKACVSQTKCGIGYG-VSGHT
                                                                                                                                                                                                                                                                                                                                                        variola minor virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1-349 <BLI>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                              S.N.; Totmenin, A.V.; Gutorov, V.V.; Safronov, P.F.; Massung, R.F.; enBank, March 1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NGF receptor repeat homology <NG3>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    --HQLLCDKCAPGTYLKQHCTVRRKTLCVPCPDHSYTDSWHTSDECV 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21.2%;
    T2 protein;
                                                                           ; NID:g5830555;
Garcia-1966
                                                                                                                                                                                                                                      complete
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 210.5; DB Pred. No. 1e-09; 9; Mismatches
         NGF
                                                                                                                                                                                                                                    coding
       receptor repeat homology
                                                                                              PIDN:CAB54798.1;
                                                                                                                                                                                                                                      sequence of
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 of variola virus
                                                                                                                                                                                                                                    DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                overcome the host protective
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S.G.; Chizhikov,
                                                                                            PID: 95830759
                                                                                                                                                                                                                                      of
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C;Keywords: duplication; glycoprotein; heterodimer; mon F;1-28/Domain: signal sequence #status predicted <SIG>F;29-427/Product: nerve growth factor receptor #status F;29-250/Domain: extracellular #status predicted <EXT>

NGF receptor repeat homology

monomer; phosphoprotein;

receptor

experimental

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C;Comment: This receptor is found on sensory and sympathetic neurons, on C;Comment: The cysteine-rich region of the extracellular domain may form C;Comment: This protein is thought to form a high-affinity receptor when C;Comment: This receptor undergoes both N- and O-linked glycosylation.
A; Map position: 17q21-17q22
C; Superfamily: nerve growth factor receptor;
                                                                                                                                                                                                                                                                                                                                          A; Molecule type: protein
A; Residues: 183-208 < VIS>
R: Sehgal, A.; Patil, N.; Chao, M.
Mol. Cell. Biol. 8, 3160-3167, 1988
A; Title: A constitutive promoter directs expression of A; Reference number: 157638; MUID:89096903
A; Accession: 157638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    R;Vissavajjhala, P.; Leszyk, J.D.; Lin-Goerke, J.; Ross, A.H. Arch. Biochem. Blophys. 294, 244-252, 1992
A;Title: Structural Annaira - f. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Title: Purification and amino terminal sequencing of human melanoma A;Reference number: A60204; MUID:87085574
A;Accession: A60204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C;Date: 31-Mar-1988 #sequence_revision 31-Mar-1988 #text_change C;Accession: A25218; A60204; S21689; I57638 R;Johnson, D.; Lanahan, A.; Buck, C.R.; Sehgal, A.; Morgan, C.;
                                                   A;Cross-references: GDB:120234; OMIM:162010
                                                                            A; Gene: GDB: NGFR
                                                                                                          C; Genetics:
                                                                                                                                                                                                                                     A;Cross-references: GB:M21621; NID:g189206; PIDN:AAA36363.1; PID:g189207
                                                                                                                                                                                                                                                                   A;Residues:
                                                                                                                                                                                                                                                                                            A; Molecule
                                                                                                                                                                                                                                                                                                                       A;Status:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Title: Structural domains of the extracellular domain of human A; Reference number: S21689; MUID:92198017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Residues: 29-31,'T',33-42,'TT',45-46,'TX',50-51,'XX',54-56
A;Experimental source: melanoma cell line A875
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Molecule type: protein A; Residues: 29-31, 'T', 33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R;Marano, N.; Dietzschold, B.;
J. Neurochem. 48, 225-232, 1987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Cross-references: GB:M14764; NID:g189204; PIDN:AAB59544.1; PID:g189295 R;Marano, N.; Dietzschold, B.; Earley Jr., J.J.; Schatteman, G.; Thowrson,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Reference number: A25218; A; Accession: A25218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Title: Expression and structure of the human A; Reference number: A25218; MUID:87051725
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R;Johnson, D.; Lanahan, A.; Buck, Cell 47, 545-554, 1986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N;Alternate names: NGF receptor C;Species: Homo sapiens (man)
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                               preliminary;
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                                                                                                                                                                                                                                                                 type: DNA
1-22 <RES>
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F;1-29/Domain: signal sequence #status predicted <SIG>
F;30-425/Product: nerve growth factor receptor #status predicted <MAT>
F;30-251/Domain: extracellular #status predicted <EXT>
F;33-65/Domain: NGF receptor repeat homology <NG1>
F;68-109/Domain: NGF receptor repeat homology <NG3>
F;110-148/Domain: NGF receptor repeat homology <NG3>
F;110-148/Domain: NGF receptor repeat homology <NG3>
F;150-190/Domain: NGF receptor repeat homology <NG3>
F;198-249/Region: seriee/threonine-rich
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Rocessammer type: mRNA
A; Molecule type: mRNA
A; Rolecule type: mRNA
A; Residues: 1-425 < RAD>
A; Residues: 1-425 < RAD>
A; Cross-references: GB: X05137; NID: g56755; PIDN: CAA28783.1; PID: g56756
A; Cross-references: GB: X05137; NID: g56755; PIDN: CAA28783.1; PID: g56756
A; Cross-references: GB: X05137; NID: g56755; PIDN: CAA28783.1; PID: g56756
A; Cross-references: GB: X05137; NID: g56755; PIDN: CAA28783.1; PID: g56756
A; Cross-references: GB: X05137; NID: g56755; PIDN: CAA28783.1; PID: g56756
A; Cross-references: GB: X05137; NID: g56755; PIDN: CAA28783.1; PID: g56756
A; Cross-references: GB: X05137; NID: g56755; PIDN: CAA28783.1; PID: g56756
A; Cross-references: GB: X05137; NID: g56755; PIDN: CAA28783.1; PID: g56756
A; Cross-references: GB: X05137; NID: g56755; PIDN: CAA28783.1; PID: g56756
A; Cross-references: GB: X05137; NID: g56755; PIDN: CAA28783.1; PID: g56756
A; Cross-references: GB: X05137; NID: g56755; PIDN: CAA28783.1; PID: g56756
A; Cross-references: GB: X05137; NID: g56755; PIDN: CAA28783.1; PID: g56756
A; Cross-references: GB: X05137; NID: g56755; PIDN: CAA28783.1; PID: g56756
A; Cross-references: GB: X05137; NID: g56755; PIDN: CAA28783.1; PID: g56756
A; Cross-references: GB: X05137; NID: g56755; PIDN: CAA28783.1; PID: g56756
A; Cross-references: GB: X05137; NID: g56755; PIDN: CAA28783.1; PID: g56756
A; Cross-references: GB: X05137; NID: g56755; PIDN: CAA28783.1; PID: g56756
A; Cross-references: GB: X05137; NID: g56755; PIDN: CAA28783.1; PID: g56756
A; Cross-references: GB: X05137; NID: g56755; PIDN: CAA28783.1; PID: g56756
A; Cross-references: GB: X05137; NID: g56755; PIDN: CAA28783.1; PID: g56756
A; Cross-references: GB: X05137; NID: g56755; PIDN: CAA28783.1; PID: g56756
A; Cross-references: GB: X05137; NID: g56755; PIDN: CAA28783.1; PID: g56756
A; Cross-references: GB: X05137; NID: g56756; PIDN: CAA28783.1; PID: g56756; PID:
                                                                                                                                                                                                                                  F;252-273/Domain: transmembrane #status predicted <MEM>F;274-425/Domain: intracellular #status predicted <INT>F;61/Binding site: carbohydrate (Asn) (covalent) #status
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   R;Radeke, M.J.; Misko, T.P.; Hsu, C.; Herzenberg, L.A.; Snooter, E.m. Nature 325, 593-597, 1987
A;Title: Gene transfer and molecular cloning of the rat nerve growth factor receptor. A;Reference number: A26431; MUID:87115859
A;Accession: A26431.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N;Alternate names: NGF receptor
C;Species: Rattus norvegicus (Norway rat)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999
C;Accession: A26431; PHI229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C;Comment: This receptor is found on sensory and sympathetic neurons, on neuroblastoma C;Comment: The cysteine-rich region of the extracellular domain may form part or all o C;Comment: This protein is thought to form a high-affinity receptor when it associates
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Title: Regulatory elements and transcriptional regulation by testosterone and A;Reference number: PH1229; MUID:93077038
A;Accession: PH1229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Дb
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Molecule type: DNA
A; Residues: 1-20 <MET>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Genetics: 10/3 Introns: 20/3 Introns: 20/3 Introns: 20/3 Introns: 20/3 Introns: MGF receptor repeat homology superfamily: nerve growth factor receptor; NGF receptor repeat homology keywords: duplication; glycoprotein; heterodimer; monomer; phosphoprote; keywords: duplication; glycoprotein; heterodimer; phosphoprote
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                                                           Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
mes 45; Conser
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CKACNLGEGVAQPCGA-NQTVCEPCLDSVTFSDVVSATEPCKPCTE-CVGLQSMSAPCVE 101
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         Conservative
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33.3%;
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Score 188.5; DB 1
Pred. No. 6.7e-08;
3; Mismatches 58
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                                                                                                  DB 1;
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                                                                                             Length 425;
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A; Molecule type: mRNA
A; Molecule type: mRNA
A; Molecule type: mRNA
A; Residues: 21-35, 'Y', 37-172, 'K', 174-275, 'S', 277-395, 'R', 397-416 < HEU
C; Comment: This receptor is found on sensory and sympathetic neurons. On neuroblastom
C; Comment: The cysteine-rich region of the extracellular domain may form part or all
C; Comment: This protein is thought to form a high-affinity receptor when it associate
C; Superfamily: nerve growth factor receptor; NGF receptor repeat homology
C; Keywords: duplication; glycoprotein; heterodimer; monomer; phosphoprotein; receptor
F; I-20/Domain: signal sequence #status predicted <SIG>
F; I-20/Domain: signal sequence #status predicted <MAT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Experimental source: embryonic chick brain R;Heuer, J.G.; Fatemie-Nainie, S.; Wheeler, E.F.; Bothwell, Dev. Biol. 137, 287-304, 1990
A;Title: Structure and developmental expression of the chick A;Reference number: A60504; MUID:90152140
A;Accession: A60504
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F;240-261/Domain: transmembrane #status predicted <NEM>F;262-416/Domain: intracellular #status predicted <INT>F;52/Binding site: carbohydrate (Asn) (covalent) #status
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F;21-239/Domain: extracellular #status predicted <EXT>
F;24-57/Domain: NGF receptor repeat homology <NG1>
F;59-100/Domain: NGF receptor repeat homology <NG2>
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C;Species: Gallus gallus (chicken)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999
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A; Residues: 1-416 <LAR>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Title: Structure and developmental expression of the A; Reference number: JN0006; MUID: 90166579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R; Large, T.H.; Weskamp, G
Neuron 2, 1123-1134, 1989
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Best Local
                                                                                                                                                                                                                                                                                                                                                                     Matches
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VDPCLPCTICEE-NEVMVKECTATSDAEC
                                                        KAPCIKHTNCSTFGLLLIQKGNATHDNVC
                                                                                                                       SDDAVCRCAYG-YFQDELSGSCKECSICEVGFGLMFPCRDSQDTVCEECPEGTFSDEANF
                                                                                                                                                                               THNRVCECEEGRYLEIEF----CLKHRSCPPGSGVVQAGTPERNTVCKKCPDGFFSGETSS 135
                                                                                                                                                                                                                                              CKACNLGEGVVQPCGV-NQTVCEPCLDSVTYSDTVSATEPCKPCTQ-CVGLHSMSAPCVE
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                                          Rat osteoprotegeri
Mutated OCIF, OCIF
Human FTHMA-070 pa
Mutated OCIF, OCIF
                                                                                                                                                                                                            Description
               Mature osteoclasto
Human tumour necro
Human OCIF genome
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ALIGNMENTS

RESULT W38344 ID W3 Osteoprotegerin; antibody; diagnosis; affinity purification; recombinant production; transgenic animal; treatment; preventic antisense oligonucleotide; probe; detection; screening; mouse; bone disease; osteoporosis; Paget's disease: hypercalcaemia; hyperparathyrodism; rheumatoid arthritis; osteomyelitis; osteolytic metastasis; periodontal bone loss; bone necrosis; osteopaenia; murine. 03-SEP-1996; 22-DEC-1995; CDS (AMGE-) AMGEN INC W38344; W38344 standard; Protein; 401 AA. 26-JUN-1997. DE19654610-A1 Mus sp. Mouse osteoprotegerin. 20-APR-1998 20-DEC-1996; (first entry) 96US-0706945 95US-0577788 96DE-1054610 Location/Qualifiers 90..1295 /product= /*tag= osteoprotegerin - .

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RESULT
W38343
ID W3
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Best Local
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03-SEP-1996;
                                                                                        DE19654610-A1
                                                                                                                                                                                      Rat; osteoprotegerin; antibody; diagnosis; affinity purification; recombinant production; transgenic animal; treatment; prevention; antisense oligonucleotide; probe; detection; screening; bone disease; osteoporosis; Paget's disease; hypercalcaemia; hypercalcaemia; hypercalcaemia;
                           20-DEC-1996;
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                                                                                                                                                              hyperparathyroidism; rheumatoid arthritosteolytic metastasis; periodontal bone
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      osteopaenia.
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Pred. No. 6.4e-79;
Nismatches 0;
                                                                                                                                                                               arthritis; osteomyelitis;
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29-AUG-1996.
                       WO9626217-A1
                                                                                                   Key
                                                                                                                           Synthetic
                                                                                                                                                    osteoporosis
                                                                                                                                                               Osteoclastogenesis inhibitory factor; OCIF; heparin; bone
                                                                                                                                                                                         Mutated OCIF,
                                                                                                                                                                                                                                           R99945;
                                                                                                                                                                                                                                                                    R99945 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  osteolytic, metastases, periodontal bone loss, bone necrosis and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nucleic acid encoding osteoprotegerin - diseases involving excessive bone loss,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 1997-334271/31
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                                                             Protein
                                                                                     Peptide
                                                                                                                                                                                                                  23-APR-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 23;
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                                                                                                                                                                                                                                                                                                                                            121 CKKCPDGFFSGETSSKAPCIKHTNCSTFGLLLIQKGNATHDNVCSGNREATQ 172
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                                                                                                                                                                                                                                                                                                                                                                                             YCSPYCKELQSYKQECNRTHNRYCECEEGRYLEIEFCLKHRSCPPGSGYYQAGTPERN. V-120
                                                                                                                                                                                                                                                                                                                                                                                                                                  etfppkylhydpetgrqllcdkcapgtylkqhctvrrktlcvpcpdysytdswhtsdec
                                                                                                                                                                                                                                                                                                                                                                                                                                               ETLPPKYLHYDPETGHQLLCDKCAPGTYLKQHCTVRRKTLCVPCPDHSYTDSWHTSDE;v
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     161;
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61; Conservative
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                                                            /note= "Signal
22..197
                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                    Protein;
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                                                "Mature OCIF-CDD1"
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Pred. No. 5.8e-74;
6; Mismatches 5
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Best Local S
Matches 151
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 W09626217-A1
                                                                            Synthetic
                                                                                                osteoporosis.
                                                                                                        Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;
                             Protein
                                                                                                                           Mutated OCIF,
                                                                                                                                                23-APR-1997
                                                                                                                                                                   R99944;
                                                                                                                                                                                     R99944 standard; Protein; 272
                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                          osteoporosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 71; Page 123; 183pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DNA encoding osteoclastogenesis inhibitory factor protein - useful for bone resorption control, esp. treatment of osteoporosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Goto M, Higashio K,
Nakagawa N, Shima N,
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20-FEB-1995;
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                                                Peptide
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mes 151; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                  the treatment and prevention of disorders of bone resorption, e.g.
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                                                                                                                                                                                                                                                                                    YCSPVCKELQSVKQECNRTHNRVCECEEGRYLEIEFCLKHRSCPPGSGVVQAGTPERNTV 120
                                                                                                                                                                                                                                                                                                              1996-402320/40
DB; T33175.
                                                                                                                                                                                                                                                                          ycspvckelqyvkqecnrthnrvceckegryleiefclkhrscppgfgvvqagtperntv
                                                                                                                                                                                                                                                                                                                                                                                                       197 AA;
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                                                                                                                                              (first entry)
                                                                                                                           OCIF-CDD2
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95JP-0054977
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                  /note=
22..272
/note=
                                                Location/Qualifiers
1..21
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87.3%;
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Tsuda E,
                                    "Signal peptide"
                   "Mature OCIF-CDD2"
                                                                                                                                                                                                                                                                                                                                                              Score 887; DB 17;
Pred. No. 4.9e-70;
                                                                                                                                                                                     A
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Ueda
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a M, Yano K,
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Yasuda H;
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Best Local Similarity
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                 Protein
                                                                                                           Synthetic
                                                                                                                                                 osteoporosis
                                                                                                                                                                     Osteoclastogenesis inhibitory factor; OCIF; heparin; bone reso
                                                                                                                                                                                                           Mutated OCIF,
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                                                     Peptide
                                                                                                                                                                                                                                                                                                                       R99949 standard; Protein; 321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         osteoporosis.
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20-FEB-1995;
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N, Shima N,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   272 AA;
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                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                           OCIF-CSph.
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95JP-0054977
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                 22..321
                                 /note= "Signal peptide"
                                                                       Location/Qualifiers
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87.3%;
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Tsuda E,
"Mature OCIF-CSph"
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Pred. No. 6.9e-70;
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Yasuda H;
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                         Synthetic.
                                          Osteoclastogenesis inhibitory osteoporosis.
                                                                                                                                                                                                                                                                                                                                                                                                         This sequence represents a mutated version of the full length osteoclastogenesis inhibitory factor (OCIF) of the invention. This sequence represents OCIF-CSph in which amino acids 298-380 of the mature
Peptide
                                                                    Mutated OCIF,
                                                                                                                       R99940 standard;
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Nakagawa N, Shima
                                                                                     23-APR-1997
                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 83; Page 128-129; 183pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1996-402320/40
N-PSDB; T33179.
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20-FEB-1995;
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                                                                                    (first entry)
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95JP-0054977.
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Location/Qualifiers 1..21
                                                                                                                      Protein; 326
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87.3%;
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Tsuda E, Ue
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Pred. No. 8.3e-70;
7; Mismatches 15;
                                                  factor; OCIF; heparin; bone resorption;
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da M, Yano K,
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Yasuda H;
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Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resor; i n; osteoporosis.
                                                                Mutated
                                                                                                        23-APR-1997
                                                                                                                                                     R99941;
                                                                                                                                                                                          R99941 standard; Protein;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DNA encoding osteoclastogenesis inhibitory factor protein - for bone resorption control, esp. treatment of osteoporosis
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N-PSDB; T33170.
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20-FEB-1995;
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                                                                                                                                                                                                                                                                                              ckrcpdgffsnetsskapcrkhtncsvfgllltqkgnathdnicsgnsestqk 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                             \verb|etfppkylhy| deetshqllcdkcppgtylkqhctakwktvcapcpdhyytdswhtsdecl|
                                                                OCIF,
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N, Shima N,
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                                                                                                      (first entry)
                                                                OCIF-DDD2
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95JP-0054977
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198..199
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22..326
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Tsuda E, Ue
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Pred. No. 8.4e-70;
7; Mismatches 15;
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Ueda M, Yano
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Yasuda H;
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Best Local S
Matches 151
Human FTHMA-070 partial polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This sequence represents a mutated version of the full length osteoclastogenesis inhibitory factor (OCIF) of the invention. This sequence represents OCIF-DDD2 in which amino acids 253-326 of the mature OCIF protein are deleted. The OCIF of the invention has a molecular weight by SDS-PAGE of 60 kD under reducing conditions and 120 kD under non-reducing conditions. The protein is adsorbed onto cation-exchangers or heparin and its activity is lowered after 10 mins at 70 deg.C or 30 mins at 56 deg.C, and is lost after 10 mins at 90 deg.C. OCIF is useful in the control of bone resorption and therefore
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 59; Page 115-116; 183pp; Japanese.
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                                                                                                      W83928
                                                                                                                                                     W83928 standard;
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DB; T33171.
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N, Shima N,
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95JP-0054977
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273..274
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22..327
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1..21
                                                                                                                                                     Protein;
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Tsuda E, Ueda
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                                                                                                                                                     349 AA
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Pred. No. 8.4e-70;
7; Mismatches 15;
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a M, Yano K,
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Yasuda H;
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Best Local (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FTHMA-070 (see W89926) is claimed. It is a novel protein havin; homology to tumour necrosis factor receptor. FTHMA-070 nucleic acids and polypeptides of the invention are useful as modulating a variety of cellular processes. They can be used for identifying compounds which bind to or modulate the activity of the polypeptides (claimed). They can also be used in screening assays, detection assays (e.g. chromosomal mapping, tissue typing, forensic biology), predictive medicine (e.g. diagnostic assays, prognostic assays, monitoring clinical trials, and pharmacogenomics), and methods of treatment (e.g. therapeut;
Osteoclastogenesis inhibitory factor; OCIF: heparin; bone osteoporosis.
                                         Mutated
                                                                    23-APR-1997
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                                                                                                                         R99943 standard; Protein; 351
                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New isolated human FTHMA-070 and T85 proteins – used to developeroducts for the diagnosis and therapy of disorders involving
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Holtzman
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18-APR-1997;
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prophylactic) e.g.
                                                                                                                                                                                          ckrcpdgffsnetsskapcrkhtncsvfgllltqkgmathdnicsgnsestqk 216
                                                                                                                                                                                                                    CKKCPDGFFSGETSSKAPCIKHTNCSTFGLLLIQKGNATHDNVCSGNREATQK 173
                                                                                                                                                                                                                                                                          YCSPVCKELQSVKQECNRTHNRVCECEEGRYLEIEFCLKHRSCPPGSGVVQAGTPERNTV 120
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                                                                                                                                                                                                                                                                                                                                                           151;
                                         OCIF, OCIF-CC
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97US-0044746
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sequence of a partial human FTHMA-070
                                                                                                                                                                                                                                                                                                                                                                                                                                                       for neurological disorders.
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Pred. No. 9e-70;
7; Mismatches
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          Mature osteoclastogenesis inhibitory factor
                                    22-APR-1997
                                                                               R99924 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA encoding osteoclastogenesis inhibitory factor protein - for bone resorption control, esp. treatment of osteoporosis
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Nakagawa N, Shima
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                                                           R99924;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 65; Page 119-121; 183pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21-JUL-1995;
20-FEB-1995;
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                                                                                                                                                                                                             61
                                                                                                                                                                                                                                  22
                                                                                                                                                                                                                                                                                                                                                                      the treatment and prevention of disorders of bone resorption, e.g.
                                                                                                                                                                                                                                YCSPYCKELQSYKQECNRTHNRYCECEEGRYLEIEFCLKHRSCPPGSGYVQAGTPERNTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1996-402320/40.
                                                                                                                                        ckrcpdgffsnetsskapcrkhtncsvfgllltqkgnathdnicsgnsestqk
                                                                                                                                                                                    ycspvckelgyvkqecnrthnrvceckegryleiefclkhrscppgfgvvqagtperntv
                                                                                                                                                                                                                                                                              tch 89.3%; al Similarity 87.3%; 151; Conservative
                                                                                                                                                                                                                                                                                                                                        351 AA;
                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     95JP-0207508
95JP-0054977
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        96WO-JP00374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note= "Signal peptide"
22..351
/note= "Mature Office"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              z ×
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Kobayashi
Tsuda E,
                                                                                380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        esp.
                                                                                                                                                                                                                                                                              Score 887; DB 17;
Pred. No. 9.1e-70;
7; Mismatches 15;
                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             F, Number
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mochizuki
la M, Yano
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              , ბ
                                                                                                                                                                                                                                                                                                     Length 351;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Morinaga
Yasuda H;
                                                                                                                                                                                                                                                                                Indels
                                                                                                                                         194
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                                                                                                                                                                                                                                                                               0;
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RESULT
R99357
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;
                   differentiation;
                                    Tumour necrosis facor; TNF; receptor; TNF-beta; ligand; tumour;
                                                                          Human tumour
                                                                                                            05-MAY-1997
                                                                                                                                                                                R99357 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 osteoporosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 6; Page 62-64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DNA encoding osteoclastogenesis inhibitory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 1996-402320/40
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Goto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21-JUL-1995;
20-FEB-1995;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             osteoporosis
                                                                                                                                                R99357;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        29-AUG-1996.
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                                                                                                                                                                                                                                                                                                                                                                                                                         1 ETLPPKYLHYDPETGHOLLCDKCAPGTYLKQHCTVRRKTLCVPCPDHSYTDSWHTSDECV 60
                                                                                                                                                                                                                                                                                     CKKCPDGFFSGETSSKAPCIKHTNCSTFGLLLIQKGNATHDNVCSGNREATQK 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ĭ
                                                                                                                                                                                                                                                                  ckrcpdgffsnetsskapcrkhtncsvfgllltgkgnathdnicsgnsestgk 173
                                                                                                                                                                                                                                                                                                                                                        YCSPYCKELQSYKQECNRTHNRYCECEEGRYLEIEFCLKHRSCPPGSGYVQAGTPERNIY
                                                                                                                                                                                                                                                                                                                                                                                                         etfppkylhydeetshqllcdkcppgtylkqhctakwktvcapcpdhyytdswhtsdecl
                                                                                                                                                                                                                                                                                                                                      ycspvckelqyvkqecnrthnrvceckegryleiefclkhrscppgfgvvqagtperntv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              151;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity 87.3
51; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Higashio
1 N, Shima
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          resorption
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 380
                                                                          necrosis
                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BRAND MILK PROD CO
on; immune response; autoimmune disease;
graft-versus-host; apoptosis.
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95JP-0054977.
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                                                                                                                                                                                Protein;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          control,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            89.3%;
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Tsuda E,
                                                                      factor receptor
                                                                                                                                                                               390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 887; DB 17;
Pred. No. 9.9e-70;
7; Mismatches 15
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a M, Yano
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        factor protein -
t of osteoporosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              15;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
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Yasuda H;
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                     inflamma†
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                380;
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RESULT 12
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                                                                                                                                                                                                                                                                                                                                                                                       Matches 151;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The receptor may be used for screening for antagonists and agonists of the receptor and for ligands for the receptor. Such agonists may be used to inhibit the growth of tumours, to stimulate cellular differentiation, to mediate the immune response and anti-viral response, to regulate growth and provide resistance to certain infections. The antagonists may be used therapeutically, to treat autoimmune diseases, inflammation, septic shock, to inhibit graft-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 19
N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Key
Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New human tumour necrosis factor receptor - used to develop prods for treating e.g. tumours, infection, auto:immune disease, graft rejection, cytotoxicity or inflammation
              WO9807840-A1
                                                                                                 Human OCIF genome DNA-2 protein.
                                                                                                                                                                          W53238 standard; Protein; 391 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The receptor binds to TNF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 14; Fig 1; 59pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Fleischmann RD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 15-MAR-1995;
29-MAR-1995;
                                     Homo sapiens
                                                           Human; OCIF; genome; rheumatism; multiple
                                                                        Human;
                                                                                                                        15-JUL-1998 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            versus-host reactions, and to prevent apoptosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15-MAR-1995;
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                                                                                                                                                                                                                                       142
                                                                                                                                                                                                                                                121 CKKCPDGFFSGETSSKAPCIKHTNCSTFGLLLIQKGNATHDNVCSGNREATQK 173
                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                    82 ycspvckelqyvkqecnrthnrvceckegryleiefclkhrscppgfgvvqagtperntv
                                                                                                                                                                                                                                                                                                                                     22 etfppkylhydeetshqllcdkcppgtylkqhctakwktvcapcpdhyytdswhtsdecl 81
                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
                                                                                                                                                                                                                                                                                                                                                              1 ETLPPKYLHYDPETGHQLLCDKCAPGTYLKQHCTVRRKTLCVPCPDHSYTDSWHTSDECV 60
                                                                                                                                                                                                                                                                                                 YCSPYCKELQSYKQECNRTHNRYCECEEGRYLEIEFCLKHRSCPPGSGYVQAGTPERNTY 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1996-433821/43.
DB; T35475.
                                                                                                                                                                                                                                   ckrcpdgffsnetsskapcrkhtncsvfgllltqkgnathdnicsgnsestqk 194
                                                                         OCIF;
                                                                                                                                                                                                                                                                                                                                                    390 AA;
                                                                                                                                                                                                                                                                                                                                                                                       Conservative
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95ZA-0002587.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /label= sig_peptide
                                                                                                                                                                                                                                                                                                                                                                                                    89.3%;
87.3%;
                                                              osteoclast; antipyretic; osteoporosis; sclerosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          and in particular, TNF-beta
                                                                                                                                                                                                                                                                                                                                                                                        7;
                                                                                                                                                                                                                                                                                                                                                                                                  Score 887; DB 1
Pred. No. 1e-69;
                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                               DB 17;
                                                                                                                                                                                                                                                                                                                                                                                        15;
                                                                                                                                                                                                                                                                                                                                                                                                               Length 390;
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QΥ
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Protein
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Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             which is shown in the present invention. The present invention describes: (1) a method of inhibiting the formation of osteoclasts and/or antipyretic proteins, which have the following characteristics: (1) MW determined by SDS-PAGE of approximately 60 kDa under reducing conditions, and 60 kDa and 120 kDa under non-reducing conditions; (ii) 401 as sequence (III) (see W53239); (iii) affinity to cation exclungers and heparin; (iv) its osteoclast formation inhibiting activity reduced by heating at 70 degrees Celsius for 10 minutes or 56 degrees Celsius for 30 minutes, and (v) its antipyretic activity reduced by heating at 90 degrees Celsius for 10 minutes, and (z) a method for preparing the above proteins. The proteins are useful for, e.g. treatment and prevention of osteoporosis, rheumatism or multiple sclerosis, and also as antigens for immunological diagnosis of these diseases and disorders.
                               Peptide
                                                                                                               osteoporosis
                                                                                                                             Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;
                                                                                                                                                              Mutated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Inhibition of osteoclast formation and/or antipyretic activity useful for, e.g. treating osteoporosis, rheumatism and multiple
                                                                                Synthetic
                                                                                                                                                                                              23-APR-1997
                                                                                                                                                                                                                                                            R99948 standard; Protein; 393 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Morinaga T,
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                                                                                                                                                                                                                                                                                                                                        121 CKKCPDGFFSGETSSKAPCIKHTNCSTFGLLLIQKGNATHDNVCSGNREATQK 173
                                                                                                                                                                                                                                                                                                                                                                                                        72
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13
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                                                                                                                                                                                                                                                                                                                                                                                                                                        YCSPVCKELQSVKQECNRTHNRVCECEEGRYLEIEFCLKHRSCPPGSGVVQAGTPERNFV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     151;
                                                                                                                                                                                                                                                                                                                                                                                                     ycspvckelqyvkqecnrthnrvceckegryleiefclkhrscppgfgvvqagtpern:
                                                                                                                                                                                                                                                                                                                                                                                                                       OCIF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Page 16-26; 36pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Nakagawa
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                                                                                                                                                                                              (first entry)
                                                                                                                                                              OCIF-CBst.
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                                 Location/Qualifiers 1..21
/note= "Signal peptide"
22..393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      89.3%;
87.3%;
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Pred. No. 1e-69;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches ·
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 19;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 391;
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RESULT 14
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ID W57636
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XZ U77-AUG
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KW Inhibit
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Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This sequence represents a mutated version of the full length osteoclastogenesis inhibitory factor (OCIF) of the invention. This sequence represents OCIF-CBst in which Gln 371 is substituted by Leu and amino acids 373-380 of the mature OCIF protein are deleted. These changes are caused by the introduction of a restriction site in the DNA encoding this protein. The OCIF of the invention has a molecular weight by SDS-PAGE of 60 kD under reducing conditions and 120 kD under non-reducing conditions. The protein is adsorbed onto cation-exchangers or heparin and its activity is lowered after 10 mins at 70 deg.C. OCIF is useful in the control of bone resorption and therefore in the treatment and prevention of disorders of bone resorption, e.g.
TR1 receptor; tumour necrosis factor receptor-1; TNF-alpha; TNF-beta; inhibitor; tumour growth; tumour necrosis; microorganism infection; cellular differentiation stimulation; ionising radiation; septic shoc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Misc-difference
                                                                                        27-AUG-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 80;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA encoding osteoclastogenesis inhibitory factor protein for bone resorption control, esp. treatment of osteoporosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO9626217-A1
                                                         Modified TR1 receptor protein
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Nakagawa N, Shima N,
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                                                                                                                                                                                                                  Local
                                                                                                                                                                                                                                                                           82
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               393 AA;
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                                                                                      (first entry)
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95JP-0054977.
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392
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                                                                                                                                              Protein; 395
                                                                                                                                                                                                                                                                                                                                                                                                    89.3%;
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Tsuda E, Ue
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                                                                                                                                                                                                                                                                                                                                                                                       Score 887; DB 1 Pred. No. 1e-69; 7; Mismatches
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la M, Yano
                                                                                                                                                                                                                                                                                                                                                                                                                   DB 17;
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  radiation; septic shock;
                                                                                                                                                                                                                                                                                                                                                                                                                 Length 393;
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Yasuda H;
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RESULT R99942 ID R9

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194

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R99942 standard; Protein; 399

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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     radiation produced during a course of radiotherapy, e.g. denatures of enzymes, lipid peroxidation or DNA damage. The agonists may further be used to mediate an anti-viral response, to regulate growth, to mediate the immune response and to treat immunodeficiencies related to diseases such as HIV. Antagonists to the TRI receptor may be used to treat autoimmune diseases, e.g. graft versus host rejection and allogrant rejection, and T cell mediated autoimmune diseases. They may also be used to treat to prevent apoptosis. They may also be used to prevent apoptosis. They may also be used to prevent cytotoxicity and to treat septic shock, meningococcemia, inflammation, bacterial infections, cachexia, cerebral malaria or AIDS. The products can also be used for diagnosing the above diseases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              differentiation, e.g. T cell, fibroblasts or haematopoietic cell; differentiation, may be used to augment TRI's role in the host is against microorganisms and prevent related disease. The agonists alway also be used to protect against the deleterious effects of ionising
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       of the invention. The DNA can be used to produce a recombinant h(\cdot,\cdot) cell by inserting it into a vector, which is then used to transfect host cell. The TR1 receptor can bind both TNF-alpha and TNF-beta. The transfer can be set as the contract of the transfer of the 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New isolated tumour necrosis factor receptor - useful for develop, i products for treating, e.g. tumours, auto-immune disease(s), gra(i), rejection, apoptosis or inflammation
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Synthetic.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        receptor agonists can be used for inhibition of tumour growth an necrosis of tumours. They can also be used to stimulate cellula.
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121 CKKCPDGFFSGETSSKAPCIKHTNCSTFGLLLIQKGNATHDNVCSGNREATQK
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                                                                                                                                                                                                                                                           1 ETLPPKYLHYDPETGHQLLCDKCAPGTYLKQHCTVRKKTLCVPCPDHSYTDSWHTSDECV 60
                                                                                      sequence is a tumour necrosis factor receptor-1 (TR1) recept
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87.3%;
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R99942;

Ş В γ 밁 Š 388888888 뭐` Query Match Best Local Similarity Matches 151; Conserv This sequence represents a mutated version of the full length osteoclastogenesis inhibitory factor (OCIF) of the invention. This sequence represents OCIF-CL in which amino acids 379-380 of the mature OCIF protein are deleted. The OCIF of the invention has a molecular weight by SDS-PAGE of 60 kD under reducing conditions and 120 kD under non-reducing conditions. The protein is adsorbed onto cation-exchangers or heparin and its activity is lowered after 10 mins at 70 deg.C or 30 mins at 56 deg.C, and is lost after 10 mins at 90 deg.C. OCIF is useful in the control of bone resorption and therefore in the treatment and prevention of disorders of bone resorption, e.g. Key Peptide Sequence Claim 62; Page 117-119; 183pp; Japanese. DNA encoding osteoclastogenesis inhibitory factor protein - useful for bone resorption control, esp. treatment of osteoporosis WPI; 1996-402320/40. N-PSDB; T33172. Goto M, Higashio K, Nakagawa N, Shima N, 21-JUL-1995; 20-FEB-1995; 20-FEB-1996; osteoporosis. 29-AUG-1996 W09626217-A1 Protein Synthetic. osteoporosis Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption; Mutated OCIF, OCIF-CL (SNOW) SNOW BRAND MILK PROD CO LTD. 23-APR-1997 82 61 Conservative 399 AA; (first entry) 95JP-0207508. 95JP-0054977. 96WO-JP00374 /note= "Signal peptide" 22..399 Location/Qualifiers /note= "Mature OCIF-CL" 89.3%; Kobayashi F, Mochizuki S, Tsuda E, Ueda M, Yano K, Score 887; DB 17; Pred. No. 1e-69; 7; Mismatches 15; 15; Length 399; Indels Morinaga T; Yasuda H; 0 Gaps 0;

Search completed: January 27, 2001, 11:23:47 Job time: 69 sec

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Copyright (c) 1993 - 2000 Compugen Ltd.
sp_organelle:*
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SUMMARIES

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17 18 19	15 16	112	v 8 7 6 5	18841	Result No.
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ALIGNMENTS

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HSSP;
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SIGNAL
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PROSITE; PS50017; DEATH_DOMAIN;
PROSITE: PS50050; TNFR_NGFR_2;
PRODOM; PD000771; -; 1.
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PFAM; PF00020;
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DEVELOPMENTAL STAGE:
DAY 7. AT DAY 11, EX
15 TO DAY 17.
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TISSUE SPECIFICITY: EXPRESSED AT HIGH LEVELS IN LIVER, LUBRAIN, HEART, KIDNEY, STOMACH, INTESTINE, SKIN, CALVARIA
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                                                    SQEQTFQLLKLWKHQNRDQEMVKKIIQDIDLCESSVQRHLGHSNLTTEQLLALMESLPGK 120
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ilarity 100.
Conservative
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HSSP; P25942; 1CDF.
INTERPRO; IPR001368; -
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Simonet W.S., Lacey D.L., Dunstan
Luethy R., Nguyen H.Q., Wooden S.
Derose M., Elliott R., Colombero
                                                                                                                                                                                                                                                                                                                                                                                                      PFAM; PF00020; TNFR_c6;
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Suggs S., Boyle W.J.;
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SIMILARITY: CONTAINS &
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K., Nguyen H.Q., Wooden S., Bennett L., Boone T.
4., Elliott R., Colombero A., Tan H.-L., Trail
Bucay N., Renshaw-Gegg L., Hughes T.M., Hill
P., Sander S., Van G., Tarpley J., Derby P.,
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Query Match Best Local :

Similarity

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Osteoprotegerin: a novel secreted of bone density."; Cell 89:309-319(1997).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUE=PLACENTA;
MEDLINE=98351569; PubMed=9688283;
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                               FUNCTION: MAY REQULATE BONE RESORPTION BY BLOCKING TERMINAL STAGES OF OSTEOCLAST DIFFERENTIATION AND ALLOWING ACCUMULATION OF NEWLY SYNTHESIZED BONE AND CARTILAGE. MAY INHIBIT IN VITRO OSTEOCLASTOGENESIS BY INTERUPTING CELL-TO-CELL SIGNALING BETWEEN STROMAL CELLS AND OSTEOCLAST PROGENITORS.
SUBUNIT: HOMODIMER (MAJOR FORM) AND MONOMER (MINOR FORM) (BY SIMILARITY).
SUBCELLULAR LOCATION: EXTRACELLULAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RKTMRFLHSFTMYRLYQKLFLEMIGNQVQSVKISCL 216
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S., Boyle W.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FIBROBLAST;
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Primates;
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oding human
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Murakami
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kami A.,
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RESULT
Q9UHP4
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Q9UHP4; 01-MAY-2000 01-MAY-2000 01-OCT-2000

Q9UHP4

PRELIMINARY;

372

01-MAY-2000 (TIEMBLICEL 13, 01-MAY-2000 (TIEMBLICEL 13, 01-OCT-2000 (TIEMBLICEL 15, OSTEOPROTEGERIN (FRAGMENT).

Last sequence update)
Last annotation update)

Homo sapiens (Human). Eukaryota; Metazoa; (Mammalia; Eutheria; F

Chordata; Primates;

Craniata; V. Catarrhini;

Vertebrata; Euteleostom

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366 181

RKTMRFLHSFTMYRLYQKLFLEMIGNQVQSVKISCL

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SIGNAL
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                                                                                                                                                                                              CARBOHYD
                                                                                                                                                                                                                                                                           DOMAIN
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                                                                                                                                                                                                                                                                                                                                                                      PFAM; PF00020; TNFR_c6; 3.
PROSITE; PS00652; TNFR_NGFR_1;
                                                                                                                                                                                                                                                                                                                                                                                                  MIM; 602643;
                                                                                                                                                                                                                                                                                                                                                                                                           HSSP;
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 306
                   121
                                    246
                                                                     186
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                                                                                                                Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                          KIDNEY, PLACENTA, THYROID, SPINAL CORD AND LIVER. ALSO A NUMBER OF OTHER HEMATOPOLETIC AND IMMUNE ORGANS. NOT THE PANCREAS OR PERIPHERAL BLOOD LYMPHOCYTES. SIMILARITY: CONTAINS A LA NGFR/TNFR-TYPE CYSTEINE-RICH L; AB002146; BAA25910.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE SPECIFICITY: EXPRESSED AT HIGHEST
                                 SQEQTFQLLKLWKHQNRDQEMVKKIIQDIDLCESSVQRHLGHSNLTTEQLLALMESLPC* 1.5
SQEQTFQLLKLWKHQNRAQDIVKKIIQDIDLCENSVQRHIGHANLTEEQLRSLMESLPC* 1.5
                                                                             SGNREATQKCGIDVTLCEEAFFRFAVPTKIIPNWLSVLVDSLPGTKVNAESVERIKRRH-
KISPEEIERTRKTCKSSEQLLKLLSLWRIKNGDQDTLKGLMYALKHLKTSHFPKTVTH...
                                                                    SGNSESTOKCGIDVTLCEEAFFRFAVPTKFTPNWLSVLVDNLPGTKVNAESVERIKR
                                                                                                                                                                                                                                                                                                                                                                                                                          AB008822;
AB008821;
                                                                                                                                                                                                                                                                                                                                                                                                         U94332; AAB53709.1; P25942; 1CDF.
                                                                                                       Conservative
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23
23
64
107
144
306
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84.7%;
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POTENTIAL.
POTENTIAL.
A -> D (IN REF. 2 AND 3).
B42FA51C9D7C71E CRC64;
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TNFR-CYS 1.
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                                                                                                      Mismatches
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SIMILARITY
                                                                                                               969; DB 4;
No. 4.7e-69;
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Best Local S
Matches 176
                                                                                                 Query Match
Best Local Similarity
Matches 35; Conserv
                                                                                                                                                                Kawabata A., Hikiji T., Kobatake N., Inagaki H., Ikema yokitani R., Ota T., Suzuki Y., Obayashi M., Nishi T., Sl
Tanaka T., Nakamura Y., Isogai T., Sugano S.;
"NEDO human cDNA sequencing project.";
Submitted (FEB-2000) to the EMBL/GenBank/DDBJ databases.
Submitted (FEB-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PROSITE;
                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                            01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-OCT-2000 (TrEMBLrel. 15, Last annotation update)
CDNA FLJ20146 FIS, CLONE COL07877.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Cloning and Expression of Sheng Wu Hua Hsueh Yu Sheng EMBL; AF134187; AAF20168.1; HSSP; P25942; 1CDF.
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He Z.-Y., Yang G
                                                                                                                                                                                                                                                        TISSUE=COLON;
                                                                                                                                                                                                                                                                                            NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                              Q9NXN2
                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                   Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                 Q9NXN2;
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                       HSNLTTEQLLALMESLPGKKISPEEIERTRKTCKSSEQLLKLLSLWRIKNGDQDTLKGLM
                                                               ESVERIKRR----HSSQEQTFQLLK---LWKHQNRDQEMVKKIIQDIDLCESSVQRH-LG
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                                                EELKDIKKKVIAQHCSQKDTAELLRGLSLWNHAEERQKFFKYSVDEKSDKEAEVSEHSTG
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PF00020; TNFR_c6; 3.
TE; PS00552; TNFR_NGFR_1;
TE; PS50050; TNFR_NGFR_2;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                372 AA;
                                                                                                   Conservative
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on of Osteoprotegerin f
Sheng Wu Wu Li Hsueh P
168.1; -.
 - NPQELCRCSQVSMKWSQLTKTGSLW - -
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                                                                                                               Score 105;
Pred. No. 1
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Pred. No. 1.2e-66;
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Pao 31:680-684(1999).
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Q9P0I0;
01-OCT-2000
                                                                                                                                                Q9POX5;
01-OCT-2000
01-OCT-2000
01-OCT-2000
"cDNA cloning of a new human protein, FLR1, co
F-box and leucine-rich repeat.";
Submitted (APR-1999) to the EMBL/GenBank/DDBJ
EMBL; AF142481; AAF66616.1; -.
SEQUENCE 691 AA; 78554 MW; 923A1B31590E514
                                                                                    FLR1.
Homo sapiens (Human).
'--rvota; Metazoa; Chordata;
'--rvota; Metazoa; Primates;
                                                                                                                                     01-OCT-2000 (TrEMBLrel.
01-OCT-2000 (TrEMBLrel.
F-BOX PROTEIN FLRI.
                                                                                                                                                                                                                                                                                                                                                                                                                                  Ren S., Shi J., Huang C., Jiang C., Lì Y., Zho Wang Y., Fu G., Chen Z., Han Z.; Submitted (JUN-1999) to the EMBL/GenBank/DDBJ EMBL; AF157323; AAF67489.1; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
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                                                                                                                                                                                          Q9P0X5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Huang C., Zhang C., Wu T., Peng Y., Gu Y., Jir
Han Z., Wang Y., Chen Z., Fu G.;
"A novel gene expressed in the human adrenal c
submitted (MAY-2000) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=9606;
                                                      Shimbara N.;
                                                               SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                YALKHLKTSHFPK 174
                                                                                                                                                                                                                                                                                                         HSNLTTEQLIALMESIPGKKISPEEIERTRKTCKSSEQLLKLISLWRIKNGDQDTLKG1 21161
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                                                                                              Craniata; Vertebrata; Catarrhini; Hominidae;
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01-JUN-2000
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"A family of mammalian F-box proteins.";

Submitted (AUG-199) to the EMBL/GenBank/DDBJ
EMBL; AF176700; AAF03700.1;

INTERPRO; IPR001511; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q9UKA1;
GOLGIN-84.
Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INTERPRO; IFRO01810; -.
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Eukaryota; Metazoa; (
Mammalia; Eutheria; E
                                                                                                                                                                                                                                                 095287;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               148 EELKDIKKKVIAQHCSQKDTAELLRGLSLWNHAEERQKFFKYSVDEKSDKEAEVSEHSTG
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(TrEMBLrel. 13, Last sequence up)
(TrEMBLrel. 14, Last annotation
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       Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
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01-MAY-2000 (
01-JUN-2000 (
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**Identific.tion and characterization of golgin-84, a novel Golginegral membrane protein with a cytoplasmic coiled coil domain Biol. Chem. 274:2953-2963(1999).

EMBL; AF085199; AAD09753.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Curr. Biol. 9:1177-1179(1999).
EMBL; AF174591; AAF04512.1; -.
INTERPRO; IPR001611; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A. Cenciarelli C., Chiaur D.S.,
                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                           INTERPRO; IPRO01810; -. PFAM; PF00560; LRR; 1. PFAM; PF00646; F-box; 1
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Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     F-BOX PROTEIN FBL5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISSUE=TESTIS;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Identification of a family of human
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                                                                                                 114
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  174 K 174
                                                 61 FSYL-
                                                                                                                                                                           58 RHSSQEQTFQLLK---LWKHQNRDQEMVKK11QDIDLCESSVQRH-LGHSNLTTEQL)... | 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          49 AESVERIKRRHSSQEQTFQLLKLWK--HQNRDQEMVKKIIQDIDLCESSVQRHLGHSN , 106
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                                                                                                 MESLPGKKISPEEIERTRKTCKSSEQLLKLLSLWRIKNGDQDTLKGLMYALKHLKTSHF1 173
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                                                                                                                                                QHCSQKDTAELLRGLSLWNHAEERQKFFKYSVDEKSDKEAEVSEHSTGITHLPPEVMLS: 6.0
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39; Conserv
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0 (TrembLrel. 13, Las
0 (TrembLrel. 14, Las
EIN FBL5 (FRAGMENT).
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                                                    -NPQELCRCSQVSMKWSQLTKTGSLW
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Primates;
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Last annotation update)
                                                                                                                                                                                                                                         Score 100; DB
Pred. No. 3.2;
19; Mismatches
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Pred. No. 2.6;
36; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                 110B59DF98C3F1EE CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      F-box proteins.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   535
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                                                                                                                                                                                                                                                                  DB 4;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Parks W.,
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                                                                                                                                                                                                                                                                                      Length 535;
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                                               -KHLYPVHW^
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Vidal M
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RESULT 11
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ID Q9UJT7
ID Q9UJT7
DT 01-MAX
DT 01-MAX
DT 01-JUN
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Best Local S
Matches 35
                                                                                                                                                                                SEQUENCE FROM N.A.
TISSUE-FEMALE CONE;
MEDLINE-95170009; PubMed=7865797;
Tandre K., Albert V.A., Sundas A.,
"Conifer homologues to genes that
                                                                                                                                                                                                                                                                                                                                                 Picea abies (Norway spruce)
Eukaryota; Viridiplantae; Er
Coniferopsida; Coniferales;
                                                                                                                              angiosperms.";
Plant Mol. Biol. 27:69-78(1995)
-!- SUBCELLULAR LOCATION: NUCLE;
                                                                                                                                                                                                                                                                                                                                                                                                                 MADS OR DAL3.
                  HSSP; P11831; 1SRS.
MENDEL; 9965; Picab
                                                                                -!- SUBCELLULAR LOCATION: NUCLEAR
-!- SIMILARITY: CONTAINS A DOMAIN
FACTORS (MADS-DOMAIN).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-NOV-1996
01-MAY-2000
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01-MAY-2000 (TrEMBLrel.
01-JUN-2000 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=3329;
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Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q9UJT7
INTERPRO;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  204 ITHLPPEVMLSIFSYL-----NPQELCRCSQVSMKWSQLTKTGSLW-
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                                                           X79281; CAA55868.1;
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35; Conser
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i65; Picab; MADS; 9965
IPR002100; -.
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13,
                                                                                                                                                                                                                                                                                                                                                   e) (Picea excelsa)
Embryophyta; Trac
s; Pinaceae; Picea
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Last annotation updat
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Last sequence update)
Last annotation update)
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Pred.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Craniata; Vertebrata; Euteleostomi;
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                                                                                                       (BY SIMILARITY). FOUND IN SRF-TYPE
                                                                                                                                                                                            Engstrom P.;
control floral development
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                                                                                                         TRANSCRIPTION
                                                                                                                                                                                                                                                                                                                                                                       Spermatophyta;
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γQ В Qy

72 WKHQ---NRDQEMVKKIIQDIDLCESSVQRH---LGHSNLTTEQLLALM----

---EE: 17

276

217

21

FFREAVPTKIIPNWLSVLVDS-LP--GTKVNAE-SVERIKRR-----HSSQEQTFQLLK: 1 FPTFGVPVSSDGNVVAEVVDGRLPAVGTRSKYDLTVDELRRRCGAPEHMNQSALYCFF!-K

Matches

Similarity

Conservative

36;

Mismatches

69;

Indels

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13;

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Best Local :
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PFAM; PF01486; K-box; 1.
PF1NTS; PR00404; MADSDOMAIN.
PROSITE; PS00350; MADS_BOX_1; 1
PROSITE; PS0066; MADS_BOX_2; 1
PROSITE; PS0066; MADS_BOX_2; 1
SEQUENCE 203 AA; 23842 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q19863;
Q1-NOV-1996
                                                     Nature 368:32-38(1994).
EMBL; Z68315; CAA92669.1;
SEQUENCE 486 AA; 55618
                                                                                               Watson A., Weinstock L., Wilkinsc
"2.2 Mb of contiguous nucleotide
elegans.";
                                                                                                                        Wilson R., Ainscough R., Anderson K., Baynes C., Berks M.,
Bonfield J., Burton J., Connell M., Copsey T., Cooper J., Coulson,
Craxton M., Dear S., Du Z., Durbin R., Favello A., Fulton L.,
Gardner A., Green P., Hawkins T., Hillier L., Jier M., Johnston
Jones M., Kershaw J., Kirsten J., Laister N., Latreille P.,
Lightning J., Lloyd C., Mcmurray A., Mortimore B., O'Callaghan I'.
Parsons J., Percy C., Rifken L., Roopra A., Saunders D., Shownkeva.
Smaldon N., Smith A., Sonnhammer E., Staden R., Sulston J.,
Thierry-Mieg J., Thomas K., Vaudin M., Vaughan K., Waterston R.,
Watson A., Weinstock L., Wilkinson-Sproat J., Wohldman P.;
                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Nemat
Rhabditidae; Peloderinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                               01-NOV-1996 (TrEMBLrel. 01-JAN-1999 (TrEMBLrel.
                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                            Submitted
                                                                                                                                                                                                                                                                                                                           Burton
                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                         Caenorhabditis elegans
                                                                                                                                                                                                                                                                 MEDLINE=94150718; PubMed=7906398;
                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=6239;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EATQKCGIDVTLC----EEAFFRFAVPT--KIIPNWLSVLVDSLPGTKVNAESVERIKKK 58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TANREERIKILESRQRKMVGEELASCALSDLNLLESQVERGLRHIRARKTQILVAEIEL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ELSVLCDAEVALIVFSPRGKLYEFANPSMQKMLERYDKCSEGSNTTNTTKERDIQYLKFI
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36; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                              Nematoda;
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23.5%;
8.5%;
25.1%;
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                                                      MW;
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Score 95;
Pred. No.
                                                                                                                                                                                                                                                                                                            EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                Last sequence update)
Last annotation update)
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Pred. No. 2.6;
36; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Created)
                                                                                                                                                                                                                                                                                                                                                                                            Chromadorea;
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                                                      759CF127A26BFA61 CRC64;
                                                                                                               sequence from chromosome
DB 9
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              Length 486
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Best Local Similarity
Matches 37; Conserv
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090YE6;
01-MAY-2000 (TrEMBLrel. 13, C
01-MAY-2000 (TrEMBLrel. 13, I
01-MAY-2000 (TrEMBLrel. 13, I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RET-II PROTEIN.
GOLGA5 OR RET-II.
MUS musculus (Mouse).
Eukaryota; Metazoa; Chordata; C
Mammalia; Eutheria; Rodentia; S
NCBI_TaxID=10090;
SEQUENCE FROM N.A.

Ku P.T., You M.J., Cottam M.K., Bose H.R. Jr.;

Ku P.T., You M.J., Cottam M.K., Bose H.R. Jr.;

"Suppression of Anti-immunoglobuln-induced Apoptosis in B Lymphoma

"Suppression of Anti-immunoglobuln-induced Apoptosis in B Lymphoma

Cells by a Novel Nuclear Protein.";

Submitted (SEP-1997) to the EMBL/GenBank/DDBJ databases.

EMBL; AF026274; AAF21628.1; -.
                                                                                           Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
MCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-NOV-1998
01-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         088317;
01-NOV-1998
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                                                                                                                                                                                                                                                                                                                                                                                      TEQLLALMESLPGKKISPEEIERTRKTCKSSEQLLKLLSLWRIKNGDQDTLKGLMYALKH 166
                                                                                                                                                                                                                                                                                                                                                                                                              ASSMELEELRHEKEMQKEEIQKLMGQMHQLRSE-----LQDME-----AQQVSEAESA
                                                                                                                                                                                                                                                                                                                                                                                                                                 AESVERIKRRHSSQEQTFQLLKLW--KHQNRDQEMVKKIIQDIDLCESSVQRHLGHSNLT 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DLSYHNESLTTHGEGHPNSLSH-----YRSYQKI 421
                                                                                                                                                                                                                                                                                                     LRNQLTNKTLSNSSQSELESRLHQLTETLIQKQTMLESLSTEKNSL 613
                                                                                                                                                                                                                                                                                                                              LKTSHFPKTVTHSLRKTMRF-LHSFTMYRLYQKLFLEMIGNQVQSV 211
                                                                                                                                                                                                                                                                                                                                                           REQUODIQUOTAKQRTSKQELETELERMKQEFRYME-EDLHRTKNTLQSRIKDREEEIQK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PIDAIALEMLEKLIFNNKNLDICLRILKNTNKTITRVIKTLEVROPKITGOKEKLKGNSL 392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PGKKISPEEIER-----TRKTCKSSEQLLKLLSLWRIK-NGDQDTLKG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SKKKEAINR-----VKKVLTDYNITVRTMQRQRKVTCFSPFLEEEATALARDLDSITEEFL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (TrEMBLrel. 08, Created)
(TrEMBLrel. 08, Last seq
(TrEMBLrel. 15, Last ann
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      37;
                                                                                                                                                                            Last sequence update)
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                                                                                                                                                                                                        Created)
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Pred. No.
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Last annotation update)
                                                                                                          Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
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SQ SEQUENCE 729 AA; 82450 MW; 6E3389FA82361AFA CRC64;
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Best Local S
Matches 37
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 568
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                                                                             107
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                                                                    TEQUIALMESTPGKKISPEEIERTRKTCKSSEQLIKLISIMRIKNGDQDTIKGLMYAI be 166
LRNQLTNKTLSNSSQSELESRLHQLTETLIQKQTMLESLSTEKNSL
                                                    REQLQDLQDQIAKQRTSKQELETELERMKQEFRYME-EDLHRTKNTLQSRIKDREEE1(5, 567
                                                                                                       ASSMELEELRHEKEMQKEEIQKLMGQMHQLRSE-----LQDME-----AQQVSEA;.
                       LKTSHFPKTVTHSLRKTMRF-LHSFTMYRLYQKLFLEM1GNQVQSV
                                                                                                                                AESVERIKRRHSSQEQTFQLLKLW--KHQNRDQEMVKKIIQDIDLCESSVQRHLGHSN
                                                                                                                                                        37; Conservative
                                                                                                                                                 8.4%; 5c.
22.3%; Pre-
                                                                                                                                                        Score 94; DB
Pred. No. 14;
87; Mismatches
                                                                                                                                                                                   11;
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 613
                        211
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5;

Search completed: January 27, 2001, 11:24:32 Job time: 114 sec

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GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.

OM protein - protein search, using sw model

Run on: January 27, 2001, 11:22:38; Search time 17.62 Seconds (without alignments) 395.887 Million cell updates/sec

Title: Perfect score: sequence: US-09-389-545-2_COPY_186_401 1113

SGNREATQKCGIDVTLCEEA.....QKLFLEMIGNQVQSVKISCL 216

bring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

88757 seqs, 32294092 residues

Searched:

Total number of hits satisfying chosen parameters: 88757

Minimum DB Maximum DB seq length: 0
seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database : SwissProt_39:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

79		79				26 80	80			81	81.	8	81.	81.	8	82					83	84		86	87	6 88		4 91.5	3 92	2 95.5	1 100	Result No. Score
7.1	7.1	7.1	7.2	7.2	7.2	7.2	7.2	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.4	7.4	7.	7.	7.5	7.	7.	7.6	7.	7.	7.	7.9	8.1		8.3	œ	9.0	Query Match
2663	1972	350	1636	1132	1129	199	1085	960	276	1274	1032	885	877	395	1539	1232	3712	1920	1251	1230	1853	229	1752	1142	1007	3210	463	1208	1309	697		Length
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CENE_HUMAN	MYST_RABIT	GAL1_THEMA	BUD3_YEAST	JAK2_RAT	JAK2_MOUSE	VNSC_PI3H4	CUT7_SCHPO	FGD1_MOUSE	PANC_HELPJ	BXF_CLOBO	KINN_HUMAN	ASE1_YEAST	SYA_RICPR	NUSA_HELPY	Y373_HUMAN	KIF4_HUMAN	ACVS_CEPAC	PCNT_MOUSE	RBP2_PLAVB	SMC3_YEAST	MY5A_MOUSE	S3AG_BACSU	DESP_HUMAN	GIN4_YEAST	GA1	CENF_HUMAN	DNAA_RICPR	YDH6_SCHPO	ST16_SCHPO	YE9C_SCHPO	MYS2_YEAST	ID
Q02224 homo sapien					_		schi	_	N	_		P50275 saccharomyc		helic	015078 homo sapien							P49784 bacillus su		ω	·	4	æ	51	ω	773 s	524 saccharom	Description

Service Continues of

EMBL; M35532; AAA34810.1; -. EMBL; X90565; CAA62184.1; -. EMBL; Z49821; CAA89973.1; -.

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45	44	43	42	41	40	39	38	37	36	S	34
78	78	78	78.5	78.5	79	79	79	79	79	79	79
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ALIGNMENTS

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-i- CAUTION: THE INITIATOR METHIONINE MAY BE FURTHER DOWNSTREAM.
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       This SWISS-PROT entry is copyright. It is produbetween the Swiss Institute of Bioinformatics the European Bioinformatics Institute. There a use by non-profit institutions as long as i modified and this statement is not removed. Us entities requires a license agreement (See http
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Schizosaccharomycetaceae; Schizosaccharomyces.
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                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Entre the European Bioinformatics Institute. There are no restruce by non-profit institutions as long as its content use by non-profit institutions as long as its content modified and this statement is not removed. Usage by and
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                                                                                                                                                                                                                                                                                          entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Murphy L., Harris D., Barrell B.G., Rajandream M.A., Connor R.E.; Submitted (OCT-1996) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q92351;
01-NOV-1997
                                                                                                                                                                                                       Hypothetical
DOMAIN
                                                                                                                                                                                                                                                     EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Schizosaccharomyces pombe (Fission yeast).
Eukaryota; Fungi; Ascomycota; Schizosaccharomycetales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HYPOTHETICAL 140.8
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15-JUL-1998
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(Rel. 35, Last sequence update)
(Rel. 36, Last annotation update)
... a wha promein C6G9.06C IN CHROMOSOME
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COILED COIL (POTENTIAL).

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                       Score 91.5;
Pred. No. 9
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    Mismatches
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PRINTS; PRO0051; DNAA; 1.
PROSITE; PS01008; DNAA; 1.
DNA replication; DNA-binding;
NP_BIND 168 175

463 AA;

53005 MW;

F3CA5683DD3BB1A1 CRC64;

ATP-binding.
ATP (POTENTIAL)

PFAM; PF00308; bac_dnaA; 1. INTERPRO; IPR001957;

AJ235272; CAA15045.1;

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RESULT 5
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Andersson S.G.E., Zomorodipour A., Andersson J.O.,
Sicheritz-Ponten T., Alsmark U.C.M., Podowski R.M.,
Eriksson A.-S., Winkler H.H., Kurland C.G.;
"The genome sequence of Rickettsia prowazekii and tl
                                                                                                                                                                              use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                          This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "The genome sequence of mitochondria.";
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                                                                                                      entities requires a license agreement (See or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CHROMOSOMAL
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01-NOV-1997
EMBL; U55213; AAA99160.1; EMBL; AJ235272; CAA15045.1
                                                                                                                                                                                                                                              the European Bioinformatics Institute.
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SIMILARITY: BELONGS TO THE DNAA FAMILY.
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                                                                                                                                                                                                                                                                                    SWISS-PROT entry is copyright. It is produsen the Swiss Institute of Bioinformatics
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                                 "Chan G.K.T., Schaar B.T., Yen T.J.;
"Characterization of the kinetochore interactions with the kinetochore pro J. Cell Biol. 143:49-63(1998).
-!- FUNCTION: PROBABLY REQUIRED FOR K
                                                                                                                                                                                                                                                                                                                                                                                                                                              Li Q., Ke Y., Kapp J.A., Fertig N., Medsger T.A. Jr., "A novel cell-cycle-dependent 350-kDa nuclear protein: domain sufficient for nuclear localization."; Biochem. Biophys. Res. Commun. 212:220-228(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Zhu X., Mancini M.A., Chang K.-H., Liu C.-Y., Chen C.-F., Shan B., Jones D., Yang-Feng T.L., Lee W.-H.; "Characterization of a novel 350-kilodalton nuclear phosphoprotein that is specifically involved in mitotic-phase progression."; mol. Cell. Biol. 15:5017-5029(1995).
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                                                                                                                                                                MEDLINE=98437347; PubMed=9763420;
                                                                                                                                                                                                                                                    centromere/kinetochore targeting, and dimerization.", J. Biol. Chem. 270:19545-19550(1995).
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Liao H., Winkfein R.J., Mack G., Rattner J.B., 1
"CEMP-F is a protein of the nuclear matrix that
kinetochores at late G2 and is rapidly degraded
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TISSUE=BREAST CARCINOMA;
MEDLINE=95348175; PubMed
                                                                                                                                                                                                                                                                                                          Zhu X., Chang K.-H., He D., Mancini M.A., Brinkley W.R., Lee W.-H.; "The C terminus of mitosin is essential for its nuclear localization
                                                                                                                                                                                                                                                                                                                                                                       MEDLINE-95370296;
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SUBCELLULAR LOCATION: NUCLEAR MATRIX (BUT NOT IN THE N
REORGANIZATION TO THE KINETOCHORE/CENTROMERE (CORONAL
THE OUTER PLATE) AND THE SPLNDLE DURING MITOSIS.
DEVELOPMENTAL STAGE: GRADUALLY ACCUMULATES DURING THE
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                                                                                                                                                                                                                                                                                             ------SGEKNRLAGELQLLLEEIKSSKDQLKELTLENSELKKSLDCMH
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G -> D (IN REF. 2).
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RGA1 OR

DBM1

995 (Rel. 31, Created)
995 (Rel. 31, Last sequence update)
998 (Rel. 37, Last annotation update)
998 (Rel. 37, Last annotation update)
GTPASE ACTIVATING PROTEIN RGA1/DBM1.
DBM1 OR THE1 OR YOR127W OR O3290 OR YOR3290W.

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EMBL; U07421; AAA16875.1; -.
EMBL; X90518; CAA62108.1; -.
EMBL; X94335; CAA64046.1; -.
EMBL; Z75035; CAA99326.1; -.
EMBL; X90950; CAA62445.1; -.
EMBL; X90950; CAA62445.1; -.
EMBL; L02617; AAA35153.1; -.
PIR; X48535; S48535.
PGD; S0005653; RGA1.
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Ammerer G., Sprague G.F. Jr.,
"Mutation of RGA1, which enco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE-97344368; PubMed-9200815;
Voss H., Benes V., Andrade M.A., Valencia A.,
Schwager C., Paces V., Sander C., Ansorge W.;
DNA sequencing and analysis of 130 kb from ye
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Chen
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN-SNY243
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE-97060020; PubMed-8904341; Milemann S., Rechmann S., Benes V., Voss H., Schwager C., Vlcek C., Milemann S., Echmann S., Erfle H., Paces V., Ansorge W.; Sequencing and analysis of 51 kb on the right arm of chromosome from Saccharomyces cerevisiae reveals 30 open reading frames.";
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Eukaryota; Fungi; Ascomycota; Saccharomyc
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                                                                                                                                                                                                                                           European
                                                                                                                                                                                                                                                       SWISS-PROT entry is copyright. It is produced throusen the Swiss Institute of Bioinformatics and the
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t 13:655-672(1997).
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                                                                                                                                                                                                   pean Bioinformatics Institute. The non-profit institutions as long and this statement is not removed
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                                                                                                                                                                equires a license agreement (See http://www.isb-sib.ch/announce/email to license@isb-sib.ch).
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erguson B., de Virgilio
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L., Chan C.S.M.
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SEQUENCE
                                               Dietrich F.S., Mulligan J., Allen E., Araujo R., Aviles E Carpenter J., Chen E., Cherry J.M., Chung E., Duncan M., Hunicke-Smith S., Hyman R., Komp C., Lashkari D., Lew H., Mosedale D., Nakahara K., Namath A., Oefner P., Oh C., Pe Roberts D., Schramm S., Schroeder M., Shogren T., Shroff Winant A., Yelton M., Botstein D., Davis R.W., Submitted (AUG-1995) to the EMBL/GenBank/DDBJ databases.
-- FUNCTION: MAY PLAY A ROLE IN SEPTIN ASSEMBLY.
-- SIMILARITY: BELONGS TO THE SER/THR FAMILY OF PROTEIN
                                                                                                                                                                 MEDLINE-99030835; PubMed-98130727,

MEDLINE-99030835; PubMed-98130727,

Longtine M.S., Fares H., Pringle J.R.;

"Role of the yeast Gin4p protein kinase in septin assembly and septin function.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PROSITE;
PROSITE;
GTPase ac
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01-NOV-1997 (Rel. 35, Last sequence up
30-MAY-2000 (Rel. 39, Last annotation
SERINE/THREONINE-PROTEIN KINASE GIN4 (GIN4 OR YDR507C OR D9719.13.
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DOMAIN
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Eukaryota; Fungi; Ascomycota; Saccharomyc
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01-NOV-1997
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PS50023;
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LIM_DOMAIN_2;
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C805411B57553791
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n C., Petel F
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BINDING
ACT_SITE
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                                                                                                                                  the desmosomal plaque.";
J. Biol. Chem. 265:2603-2612(1990).
-i- FUNCTION: MAY PLAY A ROLE IN ATTACHING INTERMEDIATE
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DSP.
Homo sapiens (Human).
Homo sapiens (Human).
horvota; Metazoa; Chordata;
horia; Primates;
                                                                                                                                                                                     MEDLINE=90153880; PubMed=1689290; Green K.J., Parry D.A.D., Steinert P.M., Virata M.I Angst B.D., Nilles L.A.; "Structure of the human desmoplakins. Implications"
                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HUMAN
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                                                                                                                                                                                                                                                                                                                                                                 DESMOPLAKIN
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nes 43; Conserv
                            THE CELL SURFACE.

SUBUNIT: DP IS A TWO-STRANDED COILED COIL STRUCTURE.

SUBCELLULAR LOCATION: INNERMOST PORTION OF THE DESMOSOMAL PLAQUE
ALTERNATIVE PRODUCTS: 2 ISOFORMS; DPI (SHOWN HERE) AND DPII; ARE
PRODUCED BY ALTERNATIVE SPLICING.
TISSUE SPECIFICITY: DPI IS APPARENTLY AN OBLIGATE CONSTITUENT OF
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                 DESMOSOMES;
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PS00108; PROTEIN_KINASE_ST; 1.
PS50011; PROTEIN_KINASE_DOM; 1.
ase; Serine/threonine-protein kinase;
19 289 PROTEIN_KINASE.
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(Rel. 14, Last sequence update)
(Rel. 39, Last annotation update)
I AND II (DPI AND DPII) (FRAGME
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MIM; 125647;
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                                                                                                                                                                                                             DLQRER-----ENLRQEI-----EKFQKQALE-ASNRTQESKNQC
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Coiled coil; Phosphorylation; Cytoskeleton;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                            675
; 201358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Alternative
                                                                                                                                                                                                                                                                                                                                                                                                                         7.7%;
                                                                                    Last sequence up
Last annotation
PROTEIN AG.
                                                 Bacillus/Clostridium
                                                                                                                      Created)
                                  group;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3 (INCOMPLETE).

4.5 X 38 AA TANDEM REPEATS, B DOMAIN.
4.5 X 38 AA TANDEM REPEATS, B DOMAIN.
5 XINGLE NEAR COMPLETE REPEAT.
4.5 X 38 AA TANDEM REPEATS, C DOMAIN.
6 X 4 AA TANDEM REPEATS OF G-S-R-[$...
6 X 4 AA TANDEM REPEATS OF G-S-R-[$...
7 TO THE HUMAN BP ANTIGEN (AA 427-600) PHOSPHORYLATION (BY CAPK) (POTENTIAL), MISSING (IN ISOFORM DPII).
8 MW; AF45104E4BFFC806 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                38;
                                                                                                                                                                                                                                                                                                                                                                                                               Score 86; DB
Pred. No. 41;
38; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ROD (HEPTAD REPEAT PATTERN) (POTENT AL.).
COILED COIL (POTENTIAL).
2.5 X 156 AA APPROXIMATE TANDEM REPEATS
                                                                                                                                                   PRT;
                                    Bacillus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            splicing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AND
                                                                                                            update)
                                                                                                                                                  229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (See http://www.isb-sib.ch/announce/
                                                                                               update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ΙΙ
                                                                                                                                                                                                                                                                                                                                     -KIIQD--IDLCESSVQRHLGHS---N 104
                                                                                                                                                  AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ARE THE
                                                                                                                                                                                                                                                                                                                                                                                                              92;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           are no resi
                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 1752;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MAJOR HIGH MOLES
                                                                                                                                                                                                                                                                                                                                                                                                                Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL outstation
                                                                                                                                                                                                              686
                                                                                                                                                                                                                                      215
                                                                                                                                                                                                                                                                                                                                                                                                                46;
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                                                                                                                                                                                                                                                                                                                                                                                                                5.45
                                                                                                                                                                                                                                                               652
                                                                                                                                                                                                                                                                                                               593
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SUBUNIT: MAY BE A HOMODIMER, WHICH ASSOCIATES WITH MULTIPLE CALMODULIN OR MYOSIN LIGHT CHAINS.
SIMILARITY: BELONGS TO THE MYOSIN HEAVY CHAIN FAMILY. CLASS

the European Bioinformatics Institute.

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between

MYOSIN SUBFAMILY

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MY5A_
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CCCCCCCRARRARA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local S
Matches 34
Jenkins N.A.;
Jenkins N.A.;
Jenkins N.A.;
Jenkins N.A.;
Nature 352:547-547(1991).
Nature 352:547-547(1991).
Nature 352:547-547(1991).

IN MELANOSOME TRANSPORT,
ALTERNATIVELY, IT MAY BE REQUIRED FOR SOME POLARIZ
TOTAL TRANSPORT.

                                                                                                                                                                                                                                                                                                                                                                                                                                                                    099104;
01-JUN-1994 (Rel. 29, Created)
01-JUN-1994 (Rel. 29, Last sequence up
01-OCT-2000 (Rel. 40, Last annotation
DILUTE MYOSIN HEAVY CHAIN, NON-MUSCLE
MYOSA OR DILUTE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOUSE
                                                                                                                                                                                                                                                                                               STRAIN=C57BL/6; TISSUE=BRAIN;
MEDLINE=91141583; PubMed=1996138;
Mercer J.A., Seperack P.K., Strobel M.C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; U35252; AAA76726.1; -.
EMBL; D84432; BAA12566.1; -.
EMBL; Z99116; CAB14368.1; -.
SUBTILIST; BG11414; spoiliag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             use by non-profit institutions as long modified and this statement is not removed. entities requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Enthe European Bioinformatics Institute. There are no restruse by non-profit institutions as long as its content
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN-168 / JH642;
Kobayashi Y., Mizuno M., Mas
Sato T., Takeuchi M.;
Submitted (MAY-1996) to the
                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                  Mus musculus (Mouse
Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MY5A_MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sporulation; Transmembrane.
TRANSMEM 30 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Guerout-Fleury A.M., Submitted (SEP-1995)
                                                                                                                                              Mercer J.A.,
                                                                                                                                                                                                            Nature 349:709-712(1991)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N
                                                                                                                                                                     REVISIONS
                                                                                                                                                                                                                                                                               Jenkins N.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                 Mammalia;
                                                                                                                                                                                                                                                     Novel myosin heavy chain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              158
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SSEEEIVM-----IKNGDKETPVVVQTKKPDIRGVLVVAQGVDNVQIKQTIIEAVTRVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SSEQLLKLLSLWRIKNGDQDT------LKGLMYALKHLKTSHFPKTVTHSLRKTM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      II------QDIDLCESSV-QRHLGHSNLTTEQLLALMESLPGKKISPEEIERTRKTCK
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity 19.(
34; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                           lus (Mouse).
; Metazoa; Chordata;
Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  229
                                                                                                                                            Seperack P.K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              14 F
25549 MW;
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19.0%;
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to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Masuda
                                                                                                                                                                                                                                                        encoded
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                                                                                                                                              Strobel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                POTENTIAL.
F -> S (IN REF. 2).
; 110310C897BD8691 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 84.5;
Pred. No. 4
                                                                                                                                                                                                                                                                                                                                                                                                        Craniata; Vertebrata; Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       s.,
                                                                                                                                                                                                                                                     γď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              update)
                                                                                                                                            M.C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1853
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Takemaru
                                                                                                                                                                                                                                                        murine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .6
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                                                                                                                                            Copeland
                                                                                                                                                                                                                                                                                                 Copeland
                                                                                                                                                                                                                                                     dilute
                                                                                                                                                                                                                                                                                                                                                                                                             Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----HQNRDQEMVKK 84
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VA) (MYOSIN 5A).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             databases
                                                       POLARIZATION PROCESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 229;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                            z
                                                                                                                                                                                                                                                     coat colour
                                                                                                                                                                                                                                                                                                 N.G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                    Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -TDKEGGKRSVTDQ
                                                                                                                                            .G.,
                                                                                                                                                                                                                                                                                                                                                                                                             Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    restrictions on
                                                                           OR
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      53;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               for
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   184
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RESULT 12
SMC3_YEAST
В
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                                                                                                                                                                                                                                                      Query Match
Best Local S
Matches 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INTERPRO; IPRO00048; -.
INTERPRO; IPRO01609; -.
INTERPRO; IPRO02710; -.
PFAM; PF01843; DIL; 1.
PFAM; PF00612; IQ; 6.
                       SMC3_YEAST STANDARD; PRT; 12
P47037;
01-FEB-1996 (Rel. 33, Created)
01-FEB-1996 (Rel. 33, Last sequence up
15-JUL-1998 (Rel. 36, Last annotation
CHROMOSOME SEGREGATION PROTEIN SMC3 (D
SMC3 OR YJL074C OR J1049.
                                                                                                                                                                                                                                                     NP_BIND
MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                DOMAIN
DOMAIN
DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
DOMAIN
DOMAIN
REPEAT
REPEAT
       Saccharomyces cerevisiae
Eukaryota; Fungi; Ascomyc
                                                                                                                                                                                                                                                                                                                                       REPEAT
REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                Coiled
DOMAIN
Saccharomycetaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; X57377; CAA406
PIR; A46761; A46761.
HSSP; P08799; 1MND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           use by non-profit institutions as long modified and this statement is not removed
                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                           PFAM; PF00063; myosin_head; PRINTS; PR00193; MYOSINHEAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 entities requires a license agreement (See http://www.isb-sib.ch/ nnounce/
                                                                                                                                                                                                                                                                                                                               DOMAIN
                                                                                                                                                                                                                                                                                                                                                          REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                          DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Myosin; Repeat; ATP-binding;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MGD; MGI:105976; MYO5A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         or send an email to license@isb-sib.ch).
                                                                                                                                969
                                                                                                                                                                    909
                                                                                                                                                                                      46
                                                                                                                                                  90
                                                                                                                                                            {\tt KIEARSVERYKKLHIGMENKIMQLQRKVDEQNKDYKCLMEKLTNLEGVYNSETEKLRNl.} v_{\sharp} \cdots 8
                                                                                                                                                                             KVNAESVERIKRRHSSQE-QTFQLLKLWKHQNRDQEMV-----
                                                                                                                                          ERLQLSEE----EAKVATGRVLSLQEEIAKLR---KDLEQTRSEKKSIEE
                                                                                                                                                                                                       . Similarity
27; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                          coil; Phosphorylation
                                                                                                                                                                                                                                                                                                                                                                                   766
914
1041
643
766
                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAA40651.1;
                                                                                                                                                                                                                                                      AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            MYOSINHEAVY
        Ascomycota;
                                                                                                                                                                                                                                                                       913
1040
1853
665
887
790
815
837
863
888
787
815
815
815
Saccharomyces
                                                                                                                                                                                                               7.5%;
                                                                                                                                                                                                                                                      215594
      (Baker's yeast).
cota; Saccharomycetes;
                                                                                                                                                                                                                                                      MW;
                                                                                                                                                                                                                                                                     CALMODULIN-BINDING
CALMODULIN-BINDING
CALMODULIN-BINDING
CALMODULIN-BINDING
CALMODULIN-BINDING
CALMODULIN-BINDING
CALMODULIN-BINDING
CALMODULIN-BINDING
                                                                                                                                                                                                       Score 83.5; E
Pred. No. 69;
Pred. Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            is not removed
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Calmodulin-binding;
                                                                                                                                                                                                                                                                                                                                                                                  ACTIN-BINDING (POTENTIAL)
5 X APPROXIMATE TANDEM RE
                                                                                                                                                                                                                                                                                                                                                                                                              COILED
                                                                                                                                                                                                                                                                                                                                                                                                                                  HEAD
                                                                                                                                                                                                                                                               PHOSPHORYLATION
                                                                                                                                                                                                                                                      503E93D48CA6B766
                                   on update)
                                                                                  1230
                                                     update)
                                                                                 Ą
                                                                                                                                                                                                                        DB 1;
                                    PROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Usage
                                                                                                                                                                                                       35;
                                                                                                                                                                                                                                                               (POTENTIAL)
       Saccharomycetal
                                                                                                                                                                                                                                                                                (BY)
(BY)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -i- SUBCELLULAR LOCATION: NUCLEAR (POTENTIAL).
-i- DOMAIN: CONSISTS OF TWO PUTATIVE CENTRAL COI
FLANKED BY PUTATIVE ELOBULAR REGIONS AT THE
-i- SIMILARITY: BELONGS TO THE SMC FAMILY.
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SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                 STANDARD;
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                                                  , Created)
, Last sequence update)
, Last annotation update)
PROTEIN 2 (FRAGMENT).
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proteins that
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COILED COIL (POTENTIAL).

MW; B15ZD88F7780341F CRC64;
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Eukaryota; Metazoa;
Mammalia; Eutheria;
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SEQUENCE
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                                                                                                             microtubule organization."; Cell 76:639-650(1994).
                                                                                                                                                  Doxsey S.J., Stein
                                                                                                                                                               MEDLINE=94170365; PubMed=8124707;
                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                      PERICENTRIN
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30-MAY-2000
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Galinski M.R., Medina C.C., Ingravallo P., Barnwell J.W.;
"A reticulocyte-binding protein complex of Plasmodium vivax
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Alveolata; Apicomplexa; Haemosporida; Plasmodium
                                                                                                                                      Doxsey S.J., Stein P., Evans L., Pericentrin, a highly conserved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Malaria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; M88098; AAA29744.1; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    modified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            the European Bioinformatics Institute.
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                                                                                                                                                                                                                                                                                                                                                                                                           148
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         39 VDSLPGTKVNAESVERIKRRHSSQEQTFQLLK--LWKHQNRDQEMVKKIIQDIDLCES:
                                               CENTROSOME INVOLVED IN THE INITIAL ESTABLISHMENT OF ORGANIZATION MICOCTUBULE ARRAYS IN BOTH MITOSIS AND METOSIS.
TISSUE SPECIFICITY: HIGHEST LEVELS FOUND IN KIDNEY, THYMUS ... LIVER. LOW LEVELS IN BRAIN, MUSCLE, LUNG AND HEART.
                                    DOMAIN:
                                                                                                 FUNCTION: INTEGRAL COMPONENT OF THE FILAMENTOUS MATRIX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SUBCELLULAR LOCATION: MEMBRANE-BOUND (PROBABLE).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 69:1213-1226(1992).
FUNCTION: INVOLVED IN RETHUMAN RETICULOCYTE CELLS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SWISS-PROT entry is copyright. It is produced through a een the Swiss Institute of Bioinformatics and the EMBL
                                                                                                                                                                                                                                                                                                                                                                                 KLKGVIIEVNENTEMNTIESSAKEIEALYNELKNKKTS 1099
                                                                                                                                                                                                                                                                                                                                                                                                                                  KAYLAYIKKNYEDTVQDVLTLNEHFNTKQVSNHEPTNFDKSNKSSEELTKAVTDSKT1:..: 061
                                                                                                                                                                                                                                                                                                                                                                                                                                                         QRHLGHSNL----TTEQLLALMESLPGKKISPEEIERTRKTCKSSEQLLKLLS-----1 N : : 47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IDSL----NTALDELLKKGRTCEVSRYKLIKDTVTKETSDDTELINTI-----EKNA F, JUL
                                                                                                                                                                                                                                                                                                                                                                                                           RIK----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity 24.38; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Receptor; Membrane.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                non-profit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       requires a
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1251 AA;
                      COMPOSED OF A COILED-COIL CENTRAL N- AND C-TERMINALS.
                                                                                                                                                                                                                                                                (Rel.
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                                                                                                                                                                                                                             (Mouse)
                                                                                                                                                                                                                                                                                                                    STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                        NGDQDT-----LKGLMYALKHLKTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1251
AA; 143741 MW;
                                                                                                                                                                                                                                                                  33,3
                                                                                                                                                                                                    Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       license agreement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               institutions as long as
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24.1%;
                                                                                                                                                                                                                                                                                           Created)
                                                                                                                                                                                                                                                               Last annotation
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                                                                                                                                                                                                                                                                               sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 83;
                                                                                                                                                                                                    Craniata; Vertebrata; Euteleostom.
Sciurognathi; Muridae; Murinae; Mu
                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                      centrosome protein involved
                                                                                                                                                    Calarco P.D., Kirschner M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                54BA51C7404AC572 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 No.
                                                                                                                                                                                                                                                                               update)
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47;
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                                    REGION
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SIMILARITY:

STRONG,

TO HUMAN KENDRIN

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Matches
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Best Local :
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01-MAY-1992 (Rel. 22, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
DELTA-(L-ALPHA-AMINOADIPYL)-L-CYSTEINYL-D-VALINE
(EC 6.-.-.) (ACV SYNTHETASE) /ACVS\
                                                                                                                                                                                                                                                                                           Gutierrez S., Diez B., Montenegro E., Martin J.F.;

"Characterization of the Cephalosporium acremonium pcbAB gene
encoding alpha-aminoadipyl-cysteninyl-valine synthetase, a larg
multidomain peptide synthetase: linkage to the pcbC gene as a
of early cephalosporin biosynthetic genes and evidence of mult
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               between the Swiss Institute of BIOINTOLING the European Bioinformatics Institute. The use by non-profit institutions as proposed modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1002
                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=91177827; PubMed=1706706; Gutierrez S., Diez B., Montenegro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cephalosporium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CEPAC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                               Chen V.J., Skatrud P.
                                                                                                                                              MEDLINE=91168300; PubMed=2076552;
Hoskins J.A., O'Callaghan N., Queener S.W.,
                                                                                                                                                                                            STRAIN-ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACVS_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Coiled
                                                                                      Cephalosporium acremonium.
                                                                                                                                                                                                             PARTIAL SEQUENCE FROM N.A.,
                                                                                                                                                                                                                                       J. Bacteriol. 173:2354-2365(1991).
[2]
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         118
                                                                                                       Gene disruption of the pcbAB gene encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         178
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r. Genet. 18:523-530(1990).
FUNCTION: EACH OF THE CONSTITUENT AMINO ACIDS OF THE TRIPEPTIDE ACV ARE ACTIVATED AS AMINOACYL-ADENYLATES WITH PEPTIDE BONDS FORMED THROUGH THE PARTICIPATION OF AMINO ACID THIOLESTER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SWISS-PROT entry is copyright. It is produced through a collaboration sen the Swiss Institute of Bioinformatics and the EMBL outstation surpress Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CEPAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WNQKETL 1171
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PGKKISPEEIERTRKTCKSSEQLLKLLSLWRIKNGDQDTLKGLMYALKHLKTSHFPKTVT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          U05823; AAA17886.1;
MGI:102722; PCNT.
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42; Conserv
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                                                                                                                                                                                          11550;
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22.5%;
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                                                                                                                                                                                                             AND PARTIAL SEQUENCE
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        POLY-PRO.
POLY-GLN.
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79;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ascomycota;
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                                                                                                          ACV synthetase
                                                                                                                                                   Cantwell C.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 86;
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Best Local
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INTERRED, IPRO00255; -.
INTERPRO; IPRO00873; -.
INTERPRO; IPRO01031; -.
INTERPRO; IPRO01242; -.
INTERPRO; IPRO01242; -.
INTERPRO; IPRO01242; -.
INTERPRO; IPRO0154; -.
INTERPRO; IPRO0154; -.
INTERPRO; IPRO0154; -.
INTERPRO; IPRO0155; Thioesterase; 1.
PFAM; PF00975; Thioesterase; 1.
PFAM; PF00550; pp-binding; 3.
PRINTS; PR00154; AMPBINDING; 3.
PRINTS; PR00152; PHOSPHOPANTETHEINE; 2.
PROSITE; PS00455; AMP_BINDING; 3.
PROSITE; PS00455; AMP_BINDING; 3.
PROSITE; PS00455; AMP_BINDING; 3.
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BINDING
                                                                                                                                                                                                                                                                                                                             DOMAIN
DOMAIN
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REPEAT
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                        177
 908
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COVALENT BINDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CEPHALOSPORIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SIMILARITY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A38531;
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                       THSLRKTMRFLHSFTM 192
                                                                                                                         QLLKLWKHQNRDQEMVKKIIQDIDLCESSVQRHLGHSNLTTEQLLALMESLPGKKISPEE 126
YHSLKNELS - - EAYTM
                                            VFQT-KTLRAMAALLS-EKYTKASNGTNGVTNGTAHVNGHAANGHVSDSYVASSLQQGI 🤆
                                                                                                  DLAAIWGN-----ILSVPAQDIG-SESNFFRLGGHS-IACIQLIARVRQQLGQGITI!
                                                                                                                                                    LSFLEKKLPRYMVPTRLVQLAQIPTNINGKADLRALPAVEVAVAPTHKQDGERGNQLI::
                                                                         IERTRKTCKSSEQLLKLLSLWRIKNGDQDTLKGLMYALKHLKTSHFPKT
                                                                                                                                                                                                     1 Similarity
46; Conser
                                                                                                                                                                                                                                                                                                                                                                                         Phosphopantetheine.
234 1062
                                                                                                                                                                                                                                                                                                                                                                                                                   Antibiotic biosynthesis; Multifunctional enzyme;
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2409
795
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                                                                                                                                                                                                                Score
Pred.
                                                                                                                                                                                                                                                               PHOSPHOPANTETHEINE (BY SIMILA)
PHOSPHOPANTETHEINE (BY SIMILA)
PHOSPHOPANTETHEINE (BY SIMILA)
THIOSTERASE (BY SIMILARITY).
WW: 4EE3CleB5EBEF9B7 CRC64;
                                                                                                                                                                                                                                                                                                                                                               DOMAIN 1 (ADIPATE-ACTIVATING).
DOMAIN 2 (CYSTEINE-ACTIVATING).
DOMAIN 3 (VALINE-ACTIVATING).
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Search completed: January 27, 2001, 11:24:56 Job time: 138 sec

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GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.

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Result
No.
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myosin MYO2 - yi
hypothetical pro
MADS-box proteir
hypothetical pro
sexual different
tetratricopeptid
coiled coil prot
condensin XCAP-D;
hypothetical prot
chromosomal repli
hypothetical prot
KLP2 protein - Af
basic-leucine zip
hypothetical prot
KLP2 protein - C;
rho-type GPPase-ac
cell-cycle-depende
chromokinesin - C;
rho-type GPPase-ac
probable polyketid
helicase, Snf2/Rad
groovin gene prote
GIN4 protein - yea
DNA polymerase III
probable nuclear p
desmoplakin I - hu
mutants block spor
myosin heavy chain
hypothetical prote
kinesin-like prote
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ALIGNMENTS

RESULT A38454

A;Accession: S/1966	sin-like proce
A; Reference number: \$71966; MUID: 97051586	
Yeast 12, 999-1004, 1996 A-Title Sequence of 20 kb around the BDB10 locus on the right arm of Seccharymyces	in heavy chain
R;Parle-McDermott, A.G.; Hand, N.J.; Goulding, S.E.; Wolfe, K.H.	ints block spor
A; Experimental source: strain S288C	oplakin I - hu
A; Cross-references: EMBL: 275234; GSPDB: GN00015; MIPS: YOR326W	able nuclear p
A: Residues: 677-1574 - GOUY	polymerase III
A; ACCESSION: 30/233	protein - vea
A; Reference number: S67233	case, Snf2/Rad
submitted to the Protein Sequence Database, July 1996	able polyketid
R; Goulding, S.E.; Hand, N.J.; Parle-McDermott, A.G.; Wolfe, K.H.	type GTPase-ac
A; Experimental source: strain \$2880	mokinesin - ch
A) YOUNG TO FORDOOG THAT AND	-Cvcle-depende
A; Molecule type: DNA	c-leucine zipp
A;Accession: S67232	protein - Afr
A; Reference number: S67213	thetical prote
submitted to the Protein Sequence Database, July 1996	mosomal replic
P. Dearson R M. Hennando V. Kalogeronenilos D. Schweiter M. P. Dearson R M. Hennando V. Kalogeronenilos D. Schweiter M.	thetical prote
A; Residues: 677-1574 <par></par>	ed coll protei
A; Molecule type: DNA	atricopeptide
A;Accession: S62058	al differentia
•	thetical prote
A; Description: Sequence of 29 kilobases around the PDR10 locus on the right arm of Sa	-box protein d
submitted to the EMBL Data Library, June 1995	thetical prote
A;Cross-references: EMBLX340505, NID 340835; PIDN:(AA62184.1; PID:(94) 00	in MVO2 - Veas
A; Residues: 1-748 < PEA>	ription
A; Molecule type: DNA	•
A; Accession: S58339	
A: Reference number: <558318 A: Reference number: <558318	
R;Pearson, B.M.; Hernando, Y.; Wolf, S.S.; Kalogeropoulos, A.; Schweizer, M.	šn.
A;Cross-references: GB:M35532; NID:g172021; PIDN:AAA34810.1; PID:g17.	ing printed,
A; Residues: 1-1574 < JOH>	have a
A; ACCESSION: A38394 A: MOJECULE TVDE: DNA	
A; Reference number: A38454; MUID:91201404	
A; Title: The Saccharomyces cerevisiae MYO2 gene encodes an essential Action for vecto	
R;Johnston, G.C.; Prendergast, J.A.; Singer, R.A. J. Cell Biol. 113, 539-551, 1991	
C; Accession: A38454; S58339; S62058; S67232; S67233; S71966; S72009	
C:Species: Saccharomyces cerevision 31-Dec-1993 #foxf change 21-,	
N;Contains: myosin ATPase (EC 3.6.1.32)	
N; Alternate names: protein 06167; protein YOR326w	
myosin MYO2 - veast (Saccharomyces cerevisiae)	
R38#3#	

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A;Reference number: Z21737
A;Accession: T37827
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-697 <DEV>
A;Cross-references: EMBL:Z98849; PIDN:CAB11512.1; GS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  73-769/Domain: myosin motor domain homology AMAOT>
164-171/Region: nucleotide-binding motif A (P-loop)
652-673/Region: actin binding #status predicted
F:782-926/Domain: neck #status predicted <NEC>
F:942-1086/Domain: coiled coil #status predicted <COI>
F:1087-1574/Domain: carboxyl-terminal #status predicted
F:170/Binding site: ATP (Lys) #status predicted
F:692-702/Active site: Cys #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Gene: SGD:MYO2; MIPS:YOR326w
A;Cross-references: SGD:S0003853; MIPS:YOR326w
A;Map position: 15R
C;Function:
A;Description: involved in vacuole inheritance; involved in polarized growth:
C;Superfamily: myosin MYO2; myosin motor domain homology
C;Superfamily: myosin MYO2; myosin motor domain; cytoskeleton; hydrolase; P-loop;
A; Gene: SPDB:SP
A; Map position:
                                                   A; Experimental C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
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A;Title: Sequencing of a 35.71 kb DNA segment on the right arm of yeast chromosome A;Reference number: S71986; MUID:97051589
A;Accession: S72009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Å;Status: nucleic acid sequence not shown; translation not shown A;Molecule type: DNA A;Residues: 677-1574 <PAW>
A;Cross-references: EMBL:249821; NID:g1163062; PIDN:CAA89973.1;
                                                                                                                                                                                                                                                                                                                                          C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 03-Dec-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Cross-references: EMBL:Z49821; NID:g1163062; PIDN:CAA89973.1; PID:g1163063
A;Note: the nucleotide sequence was submitted to the EMBL Data Library, June 1995
R;Pearson, B.M.; Hernando, Y.; Payne, J.; Wolf, S.S.; Kalogeropoulos, A.; Schweizer, M.
                                                                                                                                                                                                                                          submitted to the EMBL Data Library, August 1997
A;Reference number: 771777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          F;692,702/Active site: Cys #status predict F;1097,1452/Binding site: phosphate (Thr)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Residues:
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                                                                                                                                                                                                                                                                                                                Accession: T37827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                     Species: Schizosaccharomyces pombe
                                                                                                                                                                                                                                                                                                                                                                                           othetical protein SPAC17A5.12 - fission yeast (Schizosaccharomyces pombe)
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                             SPDB:SPAC17A5.12
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NLQSTEQTLKDAQLELEDMVKQHDELKEESKKQLEELEQTKKTLVEYQTLNGDLQNEVKS 1072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SNLTTEQLL--ALMESLPGKKISPEEIERTRKTCKSSEQLLKLLSLWRIKNGD-QDTLKG 159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KENKEMTERIKELQVQVEESAKL-----QETLENMKKEHLIDIDNQKSKDMELQKTIEN 1012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       . Similarity 43; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1-748 <PEF>
                                                                           source: strain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       acid sequence
                                                                              EMBL: Z98849; PIDN: CAB11512.1; ce: strain 972h-; cosmid c17A5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1093
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 100;
Pred. No. 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1;
                                                                                                   GSPDB:GN00066; SPDB:SPAC17A5.12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 1574;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       not shown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              <CID>
                                                                                                                                                                                                                                                                                          M.A.;
                                                                                                                                                                                                                                                                                          Wood,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
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Query Match

. 68;

Score

95.5;

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2;

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submitted to the EMBL Data Library, A; Reference number: Z19429
A; Accession: T21481
                                                                                                                                                                                 hypothetical protein F28C6.1 - Caenorhabditis elegans C;Speckes: Caenorhabditis elegans C;Deckes: C-cot-1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct. C;Accession: T21481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C; Superfamily: C; Keywords: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Experimental source: C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MADS-box protein dal3 - Norway spruce C:Species: Picea abies (Norway spruce) C:Date: 20-Sep-1999 #sequence_revision C:Accession: T14848
A;Cross-references: EMBL:268315; PIDN:CAA92669.1; GSPDB:GN00020; CES...28C6.1
                                        A; Residues:
                                                                              A; Status: preliminary; translated from GB/EMBL/DDB.
                                                                                                                                                              R; Burton,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Cross-references: EMBL:X79281; NID:g695689; PIDN:CAA55868.1; A;Experimental source: female cone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Plant Mol. Biol. 27, 69-78, A; Title: Conifer homologues A; Reference number: S51934;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R; Tandre, K.; Albert, V.A.; Sundas, A.; Engstroem, P. Plant Mol. Biol. 27, 69-78, 1995
                                                         A; Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Gene:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Residues: 1-203 <TAN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Accession: T14848
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Best Local S
Matches 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         177 THSLRKTMRFLH 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    592
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nes 36; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      85
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LVDIIGEEKGHGESIRDKSMNDYYVKNMVRKAQVLEQLEKYQESLNIWKDLIADGQISKi. 535
                                                                                                                                                                                                                                                                                                                                                     KRKERISSEENAFHRKSL--SILCMRMVPFWQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HSSQEQTFQLLKLWKHQNRDQEMVKKIIQDIDLCESSVQRHLGHSNL-TTEQLLALMESI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EATQKCGIDVTLC----EEAFFRFAVPT--KIIPNWLSVLVDSLPGTKVNAESVERIKKR 58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                YIDGKHRCEAAISSHSSESHSKRTTQQ----PKSTPNHTNIKVKSERLQHVRMAQQKAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IIQDIDLCESSVQRHL--GHSNLTTEQLLALMESLPGK---KISPEEIERTRKTCKSSE) 139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LVDSLPGTKVNAES------VERIKRRHSSQEQT---FQLLKLWKHQNRDQEMVKK 84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ELSVLCDAEVALIVFSPRGKLYEFANPSMQKMLERYDKCSEGSNTTNTTKERDIQYLKKI 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LDEERSRLREPVQQIVNKW--KEGKESNLRALLASLDTILWPECRWQKVSLSELVLPKKV 649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      type: mRNA
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                                        1-486 <WIL>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   transcription factor squa; serum response A binding; transcription regulation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 95;
Pred. No.
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                                                                                                                                           December 1995
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C; Function:
A; Description: necessary
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                                                                                                                                                                                                                                                                                                                                                                                 A; Residues: 1-1309 <HIL>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R;Devlin, K.; Churcher, C.M.; Barre submitted to the EMBL Data Library,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sexual differentiation and meiosis protein ste20 - fission yeast (Schizosaccharomyces
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A; Map position: 2
A; Introns: 86/3; 276/2;
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                                                                                                                                                                                                                                                                                                                               A;Gene: stel6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Description:
                                                                                                                                                                                                                                                                                                                                                                                                    A; Molecule
                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Reference number: Z23064
                                                                                                                                                                                                                                                                                                                                                                                                                 A; Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Accession: T46557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hilli M. December 1998 Data Library, February 1998
Common thron: A new gene, ste20, in fission yeast Schizosaccharomyces pombe - necessary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Reference number: A; Accession: T39379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;Cross-references: EMBL:Z54140; PIDN:CAA90815.1; GSPDB:GN00066; SPDB:SPBC12C2;Experimental source: strain 972h-; cosmid c12C2;Experimental source: strain 972h-; cosmid c12C2;Hilti, N.; Baumann, D.; Edenharter, E.; Stalder, M.; Schweingruber, M.E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Accession: T39379; T46557
                                                                                                                                                                                                  Query Match
Best Local
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Best Local
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                                                                                                                                                                               Local Similarity
mes 57; Conser
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                                                                                                                                          1 SGNREATOKCGIDVTLCEEAFFRFAVPTKIIPNWLSVLVDSLP-------
                                  TSVLQSIESLNRVKFHSATQPFSQTTSL--LFKEQKTDGSFRGQRQVEHVKLKMGMQIDD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FFRFAVPTKIIPNWLSVLVDS-LP--GTKVNAE-SVERIKRR-----HSSQEQTFQLLKL 71
                                                                  TKV--NAESVERIKRRHSSQ--EQTFQLLKLWKHQ-----NRDQEMVK-KIIQDID- 90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PIDAIALEMLEKLIFNNKNLDICLRILKNTNKTITRVIKTLEVRQPKITGQKEKLKGNSL
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56; Conservative
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·LCESSVQRHLGHSNLTTEQLLALMESLPGKKISPEEIERTRKTCKSSEQLL---
                                                                                                                                                                               Conservative
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                                                                                                                                                                                                                                                                      for sexual development and also responsible
                                                                                                                                                                                                8.3%;
24.5%;
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25.1%;
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                                                                                                                                                                               31;
                                                                                                                                                                                                Score 92;
Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 95;
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                                                                                                          ----LLPIHLGAKIQSLPSLFNMASQFTAEDRFVA
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r 1995
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                                                                                                                                                                                                                 Length 1309;
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                                                                                                                                                                               68;
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                                                                                   A; Gene: SPDB:SP
A; Map position:
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                                                                                                                                                                                                                                                                                           C;Species: Schizosaccharomyces pombe
C;Date: 03-Dec:1999 #sequence_revision 03-Dec-1999 #text_change
                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
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C; Keywords: differentiation; epidermis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    tetratricopeptide repeat-containing protein - mouse N;Alternate names: TPIS protein C;Species: Mus musculus (house mouse) C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change
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                                                                                                                                                                                                                                A; Reference number:
                                                                                                                                                                                                                                                                               C; Accession: T39068
                                                                                                                                                                                                                                                                                                                           coiled coil protein - fission yeast (Schizosaccharomyces pombe)
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                                                                                                                                A; Experimental source:
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                                                                                                                                                                                  A; Molecule type: DNA
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                                                                                                                                                                                                                                                                                                                                                             RESULT
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R; Takaishi, M.; Huh, N.
                                                                                                                                                               A; Residues: 1-1208 <MUR>
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osition: 1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QEQTFQLLKLWKHQNRDQEMV---KKIIQ---DIDLCE---SSVQRHLGHSNLTTEQLIA 112
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                                                                                                                                                                                              preliminary; translated from GB/EMBL/DDBJ
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                  Similarity
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     Conservative
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                  8.2%;
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     32;
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 Score 91.5; [
Pred. No. 27;
32; Mismatches
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Pred. No. 19;
23; Mismatches
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                                                                                                                                                                                                                                                              M.A.; Connor, R.L.;
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A;Status: A;Cross-references: EMBL:AF024499; PIDN:AAB70358.1; GSA;Cross-references: EMBL:AF024499; PIDN:AAB70358.1; FIDN:AAB70358.1; FIDN:AAB70358.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            hypothetical protein F42G2.6 - Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Date: 29-Oct-1999 #sequence_revision 29-Oct-1999 #tcC;Accession: T32289
                                                                                                                                                                                                                                                                                                              submitted to the EMBL Data Library, Septem A,Description: The sequence of C. elegans A,Reference number: Z21146
A,Recession: T32289
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A;Title: Phosphorylation and activation of 13S condensin Reference number: Z18257; MUID:98447791
Accession: T14900
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-1364 <KIM>
                                                                                                                                                                                                                                                        A; Status: preliminary; translated
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C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 11-May-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LKLLSLWRIKNGDQDTLKGL 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LSRFQSVVTLVVGRLFDKSVNVCKNAIQLLASFLANNPFTCKLSSVDLKVPLEKETKKLK 454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TVMGEMVVRVLSGDQLEEAEKSSRDQFLDTLQEHLHDVNTYVRSCVIQIYNRIVQEKALP 394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ALMESLPGKK----ISPE----
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EVYNNHFMKQAELMTSNVTDESQLMLKTLREALQSKTNNIDHLSTILERNRKEYKS----
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMREKYQGPKPVVVISPEEEWEAMLPEVLEAFKILQQESKEEEDIETEEIESSQHLREQI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REATQKCGIDVTLCEEAFFRFA------VPTKIIPNWLSVLVDSLPGTK------
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llarity 20.8%;
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                                                                                                                                                                                                                                                                   from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      September 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  29-Oct-1999 #text_change 29-Oct-1999
                                                                                                                                                                                                                                                                                                                                                                                                                          cosmid
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                                                                                                            GSPDB:GN00020; CESP:F42G2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels 104;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      'n
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                                                                                                                                                                                                                                                                                                                                                                                                               hypothetical protein F47G4.2 - Caenorhabditis elegans / C;Species: Caenorhabditis elegans C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999 #sequence_revision 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT
C71665
                                                                                                                                                 submitted to the EMBL Data Library, A; Reference number: Z19553
A; Accession: T22360
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                                                           A; Molecule type: DNA
                                                                                                 A; Status: preliminary;
                                                                                                                                                                                                                                                                                                              C; Accession: T22360 R; White, S.
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translated

from GB/EMBL/DDBJ

September

1997

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C;Accession: C71665
R;Andersson, S.G.E; Zomorodipour, A.; Andersson, J.O.; Sicheritz-Pon' n, T.;
Nature 396, 133-140, 1998
A;Title: The genome sequence of Rickettsia prowazekii and the origin of mitoch
A;Reference number: A71630; MUID:99039499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Gene: dnaA; RP601
C; Superfamily: repl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Cross-references: GB:AJ235272; GB:AJ235269; A;Experimental source: strain Madrid E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Species: Rickettsia prowazekii
C;Date: 21-Nov-1998 #sequence_revision
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              chromosomal replication initiator protein dnaa (dnaA) RP601 - Rickettsia prowazekii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A:Map position: 2
A;Introns: 317/1; 335/1; 362/3; 781/1
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A; Residues: 1-463 <AND>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Status: preliminary; nucleic
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Best Local Similarity
                                                                                                    159 GLMYALKHLKTSHFPKTVTHSLRKTM 184
                                                                                                                                                                                                                                                                                                      237 CGKDSTQ-EEFFHTF---NTLIDNNRQMVISCDRSPSDLDNIE--DRIKSRLGWGLVALV 290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    101 -- GHSNLTTEQL-LALMESLPGKKISPEEIE---RTRKTCKSSEQLLKLLS
                                                                                                                                                                                                                                                                                                                                          10 CGIDVTLCEEAFFRFAVPTKIIPNWLSVLV--DSLPGTKVNAESVERIKRR-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                54 RIKRRHSSQEQTFQLLKLW-KHQNRDQEMVKKIIQDIDLCESSVQRHL----
                                                                                                                                                                                 TEQLLALMESLPGKKISPEEIER-TRKTCKSSEQLL----
                                                                                                                                                                                                                          HST---TYE-LRLGILESKIEQMNVKIPKDVINFLASKIVSNVRELEGALNKVIAHSNFT
                                                                                                                                                                                                                                                             HSSQEQTFQLLKLWKHQNRDQEM------VKKIIQDIDLCESSVQRHLGHSNLT 106
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                                                                 --MYSSRRLREVARPRQIAMYLSKTL
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Pred. No. 21;
17; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                      Length 463;
                                                                                                                                                                                 -KLLSLWRIKNGDQDTI. 158
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R:Boleti, H.; Karsenti, E.; Vernos, I.
Cell 84, 49-59, 1996
A;Title: Xklp2, a new Xenopus centrosomal
A;Reference number: Z20827; MUID:96140639
A;Accession: T30335
RESULT
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C;Superfamily: unassigned kinesin-related proteins; kinesin motor domain homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KLP2 protein - African clawed frog
C;Species: Kenopus laevis (African clawed frog)
C;Date: 22-Oct-1999 #sequence_revision 22-Oct-1999 #text_change 02-Jun-2000
C;Accession: T30335
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A; Cross-references: EMBL: Z99171;
A; Experimental source: clone F47G
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A; Introns: 20/1; 131/3;
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Best Local S
Matches 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Molecule type: mRNA
Residues: 1-1388 <BOL>
Cross-references: EMBL:x94082; NID:g1129172; PID:e213754; PIDN:CAA63826.1
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    143 NVSGVKLLNPDFFQ----FCKSFPNLYSLDISNCGVTILTGISRLKNLRHLSLRSLIYES
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                                                                        514 RVAKYALENHSLREENKRLHSLQSVKRAQEVTAQMI 549
                                                                                                            174
                                                                                                                                                                                                                     395 LLSGQMPGDISVARVPSVGDNNMDYMNNFIEAMMILEKSDREKKVLLQKVVQLEDLCNKK
                                                                                                                                                                                                                                                                                              343 PGSKCFGETLSTL-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               199 WYDIRELFALKLLNVLDLSMHSTHHARRNMQRFLDCKQV--LPELRFLECSGN
                                                                                                                                                                                                                                                                                                                                                               Local Similarity 22.2
nes 48; Conservative
                                                                                                                                                                                                                                                           92
                                                                                                                                                                                                                                                                                                                            43 PGTKVNAESVERIKRRHSSQEQTFQLLKLWKHQ---NRD-----QEMVKKIIQDIDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          83 QHNLKSLVLGNQDEIPSLEHYMSRLFRTSQIDHLDLSGRSQFSTAWLKTTGQQLPLLRTL 142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                79
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                      13
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                                                                                                                                                                                                                                                        CES-----SVQR------HLGHSNLTTEQLLALMESLPGKKISPEEIERTRKTCKSS 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   YAQLLRLDPQWSYNIDLKLKGLSFILTKVNFENVE-----MGPQTFGLL-----T
                                                                                                                                             EKFIQSNKMIVKFREDHISRLEKAHKEGRISLSNNEQDDFIAELKEEIRTLKE-QVEHHP
                                                                                                                                                                                 EQLL---KLLSLWR---
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                                                                                                            -THSLRKTMRFLHSFTMYRLYQKLFLEMI
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25.8%;
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                                                                                                                                                                                                                                                                                          -QFAQRAKLIKNKAVVNEDTQGNVSQLQAEVKKLKEQLSQ 394
                                                                                                                                                                                                                                                                                                                                                                  36;
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                                                                                                                                                                                                                                                                                                                                                                                    Score 88.5;
Pred. No. 54;
                                                                                                                                                                                                                                                                                                                                                                                     Pred.
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Pred. No. 2
                                                                                                                                                                                                                                                                                                                                                                  Mismatches
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                                                                                                                                                                                 --IKNGDQD----TLKGLMYALKHLKTSHFP 173
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                                                                                                                                                                                                                                                                                                                                                                                                   Length 1388;
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C;Species: Gallus gallus (chicken)
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 submitted to the EMBL Data Library, A; Reference number: Z19162
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Cross-references: EMBL:Z68159; PIDN:CAA92288.1; GSPDB:GN00022; CESP:C:3D9.5
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A; Residues: 1-361 <WAN>
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A;Accession: I50691
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A;Title: A developmentally regulated basic-leucine
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     125 EEIERTRKTCKSSEQLLKLLSLWRIKNGDQDTLKGLM 161
                                                                                                                                                                                                                                                                                                                19 EAFFREAVPIKIIPNWLSVLVDSLPGTKVNAESVERIKRRHSSQEQTFQ----LLKLVkii
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                                                              CKSSEQLLKLLSLWRIKNGDQD----TLK---GLMYALKHLKTSHFPKTVTHSLRKTM
                                                                                                                                                                                                QNRDQEM-VKKIIQDIDLCESSVQRHLGHSNLTTEQLLALMESLPGKKISPEEIERTRK.
                                                                                                                                                                                                                                                                  DAFKEGGSTTKRLMEHYHIEIDNL--KEAHSEEMYKIKRKYSTLEEYSEEINWELKLKV. 300
                                                                                                                                    NLGNLEMNFETVYQDLQTANDNMEK---YKSSESERIQKLLEEQKAEILKEEEIKRK
-ELSEQIKKIQELKDRQNVEKDREIEDLKEKIGRKSVLSSTEVEKMAKIFDENYQKIV
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KCGIDVTLCEEAFFRFAVPTKIIPNWLSVLVDSLPGTKVNAESVERI---KRRHSSQ-EQ 64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     165/1;
                                                                                                                                                                                                                                                                                                                                                                                                           44;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1-523 <WIL>
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22.7%;
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24.2%;
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Pred. No. 15;
15; Mismatches
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Pred. No. 12;
30; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NID: g440792; PIDN: AAA18960.1;
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19;
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A;Residues: 1-1017 <LIQ>
A;Residues: 1-1017 <LIQ>
A;Coss-references: GB:U25725; NID:g818866; PIDN:AAA86889.1; PID:g818867
A;Coss-references: GB:U25725; NID:g818866; PIDN:AAA86889.1; PID:g818867
A;Note: repeat 15-160 and 200-340
C;Comment: This protein contains a coiled-coil and a globular domain at the carboxy-term C;Keywords: nucleoprotein; phosphoteini; phosphotein; Covalent) (by calmodulin-dependent kinase II) #statt F;825,826,838/Binding site: phosphate (Thr) (covalent) (by cAMP-dependent kinase) #status pr F;908,909/Binding site: phosphate (Thr) (covalent) (by cAMP-dependent kinase) #status pr
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A;Title: A novel cell-cycle-dependent 350-kDa nuclear protein: C-terminal domain suffici A;Reference number: PC4035; MUID:95336446
A;Accession: PC4035
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cell-cycle-dependent 350K nuclear protein - human (fragment)
C;Species: Homo sapiens (man)
C;Date: 08-Aug-1995 #sequence_revision 19-Oct-1995 #text_change 21-Jul-2000
C;Accession: PC4035
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414 ALNAGPMYNLQENL 427
543 -----SGEKNRLAGELQLLLEEIKSSKDQLKELTLENSELKKSLDCMH 585
                                                                     143 LLSLWRIKNGDQDTLKG-LMYALKHLKTSHFP-KTVT---HSLRKTMRFLH 188
                                                                                                                                           485 TLEVLQSSYKNLENELELTKMDKMSFVEKVNKMTAKETELQREMHEMAQKTAELQEEL-- 542
                                                                                                                                                                                                                                                                                425 EEISRLKNQIQDQEQLVSKLSQVEGEHQLWKEQNLELRNLTVELEQKIQVLQSKNASLQD 484
                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity 23.4 ses 40; Conservative
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                                                                                                                                                                                                                                                                                                                                                      50 ESVERIKRRHSSQEQTFQLL-----KLWKHQNRD-----QEMVKKI------IQD 88
                                                                                                                                                                                                                                                                                                                                                                                                                        7.9%; Score 88; DB 2; Length 1017; 23.4%; Pred. No. 41; ative 34; Mismatches 55; Indels
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Search completed: January 27, 2001, 11:23:12 Job time: 35 sec

GenCore version 4.5 Copyright (c) 1993 - 2000 Comp

Compugen Ltd.

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Database
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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length: 2000000000
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1: /SIDS1/gcgda
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

CDS

Location/Qualifiers 90..1295

/product= osteoprotegerin

/*tag=

Result No.

No.	Score	Query Match	Query Match Length	DB	ID	Description
ם	1113	100.0	401	18	W38344	Mouse osteoprotege
2	1073	96.4	208	20	W89231	Mouse osteoprotege
w	1069	96.0	401	18	W38343	Rat osteoprotegeri
4	1029	92.5	208	20	W89230	Rat osteoprotegeri
5	977	87.8	360	17	R99936	Mutated OCIF, OCIF
6	977	87.8	380	17	R99924	Mature osteoclasto
7	977	87.8	391	19	W53238	Human OCIF genome
œ	977	87.8	401	17	R99925	Full length osteoc
9	977	87.8	401	19	W53239	Human OCIF genome
10	977	87.8	401	20	Y05742	Tumour necrosis fa
11	977	87.8	401	20	W95030	Tumour necrosis fa
12	977	87.8	401	20	W83926	Human FTHMA-070 pr
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(AMGE-) AMGEN INC.

03-SEP-1996; 22-DEC-1995;

96US-0706945 95US-0577788 96DE-1054610

20-DEC-1996; 26-JUN-1997. DE19654610-A1

Breast cancer asso	Y07031	20	1752	7.7	86	Ü
Human mit vin amin	W23996	19	2482	•	88	4
Human mitosin. Ho	R72826	16	2482	•	88	ü
Kinetochore protei	R99795	17	3248	٠	89	2
'Human sectored pro	Y25896	20	228	٠	91.5	Ξ
=	Y83089	21	590	•	100	0
TETF, OC	R99944	17	272	•	416	9
Tumour necrosis ta	W89229	20	311		446.5	8
PHMA - 07	W83928	20	349		558.5	37
513	R99940	17	326		569.5	8
92 FF,	R99949	17	321		592	5
:- 00	R99941	17	327	•	621	4
٠.	W89228 .	20	366	62.5	695.5	ũ
•	R99943	17	351		749	ວັ
0	R99357	17	390	٠	779.5	2
Š	W89227	20	397		833	õ
-	W57636	19	395	•	929	9
Mutated GOIF, OCIF	R99948	17	393		931	
Tumour necrosis fa	W89226	20	417		932	27
	W89232	20	208		946	6
=	W89224	20	420	•	949	Ğ
(413)	R99938	17	360		960	4
,4130	R99934	17	401	•	962	
OCTF,	R99933	17	401	٠	964	2
(F)	R99942	17	399		964	12
	R99931	17	401		967	õ
(A1,5)	R99935	17	401		967	9
OC 18,	R99932	17	401		967	ၽ
Mutated (CII, OCIP	R99939	17	359	٠	967	7
Osteoprotearin pro	Y43400	21	401		969	6
a osiwopr	W38345	18	401		969	5
도 :	W57635	19	401	87.3	972	4
Mutated AF, OCIF	R99937	17	359		972	ω

ALIGNMENTS

RESULT W38344 Osteoprotegerin; antibody; diagnosis; affinity purification; recombinant production; transgenic animal; treatment; preventium antisense oligonucleotide; probe; detection; screening; mouse; bone disease; osteoporosis; Paget's disease; hypercalcaemia; hyperparathyroidism; rheumatoid arthritis; osteomyelitis; osteolytic metastasis; periodontal bone loss; bone necrosis; Mus sp. osteopaenia; W38344; W38344 standard; Protein; 401 AA Mouse osteoprotegerin. 20-APR-1998 (first entry) murine

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PR XXX
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Best Local S
Matches 216
 01-MAY-1997;
                                                                                                                                                                                                                                                                     W89231 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       detect OPG expressing cells and tissue, and to screen cDNA libraries for related sequences. OPG can be used to treat or prevent bone diseases, specifically excessive bone loss, e.g. osteoporosis, Paget's disease, hypercalcaemia, hyperparathyroidism, rheumatoid arthritis, osteomyelitis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The present sequence is mouse osteoprotegerin (OPG). Anti-OPG antibodies can be used in OPG diagnostic assays, and as affinity purification materials. The OPG CDNA can be used to express recombinant OPG and to generate transgenic animals. It can also be used to regulate the level of OPG in mammals, specifically to increase OPG levels, however the use of antisense sequences is also contemplated. Fragments of the CDNA can be used as probes to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N-PSDB;
                          29-APR-1998;
                                                      05-NOV-1998
                                                                               WO9849305-A1
                                                                                                                                                OPG;
                                                                                                                                                                                                                                            W89231;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nucleic acid encoding osteoprotegerin - useful for treatment diseases involving excessive bone loss, e.g. osteoporosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Boyle WJ,
                                                                                                                                  inflammation;
                                                                                                                                                            Tumour necrosis factor receptor 1; TNFR-1; inhibitor; osteoprotegerin;
                                                                                                                                                                                                                 04-MAR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                osteopaenia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           osteolytic metastases, periodontal bone loss, bone necrosis and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim
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hes 216;
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                                                                                                                                                                                                                                                                                                                                                    RKTMRFLHSFTMYRLYQKLFLEMIGNQVQSVKISCL
                                                                                                                                                                                                                                                                                                                                                                                      chimeric;
                                                                                                                                                                                                                                                                                                                                      rktmrflhsftmyrlyqklflemignqvqsvkiscl
                                                                                                                                                                                                                                                                                                                                                                                                                                                          SQEQTFQLLKLWKHQNRDQEMVKKIIQDIDLCESSVQRHLGHSNLTTEQLLALMESLPGK 120
                                                                                                                                                                                                                                                                                                                                                                                                                                              sqeqtfqllklwkhqnrdqemvkkiiqdidlcessvqrhlghsnltteqllalmeslpgk
                                                                                                                                                                                     osteoprotegerin dimerisation domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                23; Pages 106-107; 182pp; German
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%; Score 1113; DB 18; llarity 100.0%; Pred. No. 6.6e-107; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                 (first entry)
                                                                                                                                  apoptosis
                           98WO-US08631
                                                                                                                                                fusion; dimerisation domain;
                                                                                                                                                                                                                                                                      Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Lacey
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                                                                                                                                                                                                                                                                                                                                       401
                                                                                                                                                autoimmune disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 401;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                acid encoding A1; (3) an expression vector comprising the nucleic acid sequence; and (4) a host cell transformed or transfected with the expression vector so that the nucleic acid is expressible. The product from the present invention are useful to treat a variety of disorders including those related to receptor binding. Compositions comprising tumour necrosis factor (TNF)/OPG and TNF receptor (TNFR)/OPG Chimeras
                                                                                                  Rat; osteoprotegerin; antibody; diagnosis; affinity purification recombinant production; transgenic animal; treatment; prevention; antisense oligonucleotide; probe; detection; screening;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New chimeric osteoprotegerin polypeptides - contain the osteoprotegerin dimerisation domain and a heterologous useful to treat TNF and TNFR-mediated disorders
                                                         hyperparathyroidism; rlosteolytic metastasis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The present invention describes a chimeric polypeptide (A1), compris
an osteoprotegerin (OPG) dimerisation domain fused to a heterologous
amino acid sequence. Also described are: (1) a multimer polypeptide
                                          osteopaenia
                                                                                          bone disease;
                                                                                                                                                                 Rat osteoprotegerin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      chimeras are also useful for detecting molecules which interact with fused heterologous sequences to identify potential new receptors and ligands. The present sequence represents mouse OPG dimerisation domains.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     are used to treat TNF and TNFR-mediated disorders such as inflammation autoimmune diseases and disorders related to excessive apoptosis. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           comprising covalently associated Al
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; Fig 1; 92pp;
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                                                                                                                                                                                                                                                                                                                                   SFTMYRLYQKLFLEMIGNQVQSVKISCL 216
                                                                                                                                                                                                                                                                                                                                                                                             LKLWKHQNRDQEMVKKIIQDIDLCESSVQRHLGHSNLTTEQLLALMESLPGKKISPEETF 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KCGIDVTLCEEAFFRFAVPTKIIPNWLSVLVDSLPGTKVNAESVERIKRRHSSQEQTFQL
                                                                                                                                                                                                                                                           standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                       gonucleotide; probe; detection; screening;
  osteoporosis; Paget's disease; hypercalcaem
  oldism; rheumatoid arthritis; osteomyelitis;
                                                                                                                                                                                                                                                           Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  96.4%;
                                                         periodontal bone loss;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     English.
                                                                                                                                                                                                                                                           401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 1073; DB 20;
Pred. No. 3.6e-103;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ;
                                                                                                                                                                                                                                             AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              monomers; (2) an isolated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 contain the
                                                                                       hypercalcaemia;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                     prevention;
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Tumour necrosis factor receptor 1; TNFR-1; inhibitor; osteoprotegerin; OPG; chimeric; fusion; dimerisation domain; autoimmune disease; inflammation; apoptosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            detect OPG expressing cells and tissue, and to screen cDNA libraries for related sequences. OPG can be used to treat or prevent bone diseases, specifically excessive bone loss, e.g. osteoporosis, Paget's disease, hypercalcaemia, hyperparathyroidism, rheumatoid arthritis, osteomyelitis, osteolytic metastases, periodontal bone loss, bone necrosis and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present sequence is rat osteoprotegerin (OPG). Anti-OPG antibodies can be used in OPG diagnostic assays, and as affinity purification materials. The OPG cDNA can be used to express recombinant OPG and to generate transgenic animals. It can also be used to regulate the level of OPG in mammals, specifically to increase OPG levels, however the use of antisense sequences is also contemplated. Fragments of the CDNA can be used as probes to
                                                                                     04-MAR-1999
                                                                                                                  W89230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Nucleic acid encoding osteoprotegerin - useful for treatment of diseases involving excessive bone loss, e.g. osteoporosis {\bf r}
                                                       Rat osteoprotegerin dimerisation domain.
                                                                                                                                          W89230 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 osteopaenia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 23; Pages 102-104; 182pp; German
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Boyle
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22-DEC-1995;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                  1 SGNREATQKCGIDVTLCEEAFFRFAVPTKIIPNWLSVLVDSLPGTKVNAESVERIKRRHS
                                                                                                                                                                        4
                                                                                                                                                                                                           KISPEEIERTRKTCKSSEQLLKLLSLWRIKNGDQDTLKGLMYALKHLKTSHFPKTVTHSL
                                                                                                                                                                                                                                                                                                                          sqeqtfqllklwkhqnrdqemvkkiiqdidlcessvqrhighanltteqlrilmeslpgk\\
                                                                                                                                                                                                                                                                                                                                         SOEQTFQLLKLWKHQNRDQEMVKKIIQDIDLCESSVQRHLGHSNLTTEQLLALMESLPGK 120
                                                                                                                                                                                                                                                                                                                                                                                     sgnreatqncgidvtlceeaffrfavptkiipnwlsvlvdslpgtkvnaesverikrrhs 245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1997-334271/31
                                                                                                                                                                                                                                                                      kispdeiertrktckpseqllkllslwrikngdqdtlkglmyalkhlkayhfpktvths1
                                                                                                                                                                                                                                                                                                                                                                                                                                                206;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        401 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Calzone FJ,
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                                                                                   (first entry)
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95US-0577788
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                                                                                                                                                                                                                                                                                                                                                                                                                                                            96.0%;
95.4%;
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                                                                                                                                            208
                                                                                                                                                                                                                                                                                                                                                                                                                                               4;
                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 1069; DB 18;
Pred. No. 2.3e-102;
4; Mismatches 6;
                                                                                                                                            A
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                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 401;
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                                                                                                                                                                                                                                                                      365
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R99936
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       amino acid sequence. Also described are: (1) a multimer polypeptide comprising covalently associated Al monomers; (2) an isolated nucleic acid encoding Al; (3) an expression vector comprising the nucleic acid sequence; and (4) a host cell transformed or transfected with the expression vector so that the nucleic acid is expressible. The products from the present invention are useful to treat a variety of discribers including those related to receptor binding. Compositions comprising tumour necrosis factor (TNF)/OPG and TNF receptor (TNRR)/OPG Chimeras are used to treat TNF and TNFR-mediated disorders such as inflammation, autoimmune diseases and disorders related to excessive apoptosis. The chimeras are also useful for detecting molecules which interact with fused heterologous sequences to identify potential new receptors and ligands. The present sequence represents rat OPG dimerisation domain.
                                                                                               R99936 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New chimeric osteoprotegerin polypeptides - contain the osteoprotegerin dimerisation domain and a heterologous useful to treat TNF and TNFR-mediated disorders
  23-APR-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; Fig 1; 92pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          an osteoprotegerin (OPG) dimerisation domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The present invention describes a chimeric polypeptide (Al),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 1999-034661/03
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10 CGIDVTLCEEAFFRFAVPTKIIPNWLSVLVDSLPGTKVNAESVERIKRRHSSQEQTF(
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2
                                                                                                                                                G
                                                                                                                                                                                                                                                                                                                                                                                                                     {\tt klwkhqnrdqemvkkiiqdidlcessvqrhighanltteqlrilmeslpgkkispdeich}
                                                                                                                                                                                                                                                FTMYRLYQKLFLEMIGNQVQSVKISCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  \verb|cgidvtlceeaffrfavptkiipnwlsvlvdslpgtkvnaesverikrrhssqeqtfq||.|
                                                                                                                                                                                                                        ftmyrlygklflemignqvqsvkiscl
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     208
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(first entry)
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                                                                                                  Protein; 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   92.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 1029; DB 20
Pred. No. 1.3e-98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4; Mismatches
                                                                                                  A
                                                                                                                                                                                                                                                                       216
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В Qy Вb Qy 밁

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Mutated OCIF, OCIF-DCR1

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Query Match
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                                                                                                                                                                                                                                                                                                            Matches 184;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Osteoclastogenesis osteoporosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 44; Page 105-107; 183pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               {\tt DNA} encoding osteoclastogenesis inhibitory factor protein - useful for bone resorption control, esp. treatment of osteoporosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1996-402320/40
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Nakagawa N, Shima N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Goto M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21-JUL-1995;
20-FEB-1995;
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                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
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  325
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                  181 RKTMRFLHSFTMYRLYQKLFLEMIGNQVQSVKISCL
                                                                                                                  121
                                                                                                                                                                          61 SQEQTFQLLKLWKHQNRDQEMVKKIIQDIDLCESSVQRHLGHSNLTTEQLLALMESLPGK 120
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kktirflhsftmyklygklflemignqvqsvkiscl
                                                                                              KISPEEIERTRKTCKSSEQLLKLLSLWRIKNGDQDTLKGLMYALKHLKTSHFPKTVTHSL
                                                                                                                                                  sqeqtfqllklwkhqnkdqdivkkiiqdidlcensvqrhighanltfeqlrslmeslpgk
                                                                                                                                                                                                                              sgnsestqkcgidvtlcee affr favptkftpnwlsvlvdnlpgtkvnaesverikrqhs\\
                                                                                                                                                                                                                                                    SGNREATQKCGIDVTLCEEAFFRFAVPTKIIPNWLSVLVDSLPGTKVNAESVERIKRRHS
                                                                          T33166
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95JP-0054977.
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22..360
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                                                                                                                                                                                                                                                                                                                          87.8%;
85.2%;
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Tsuda E, Ue
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                                                                                                                                                                                                                                                                                                            19;
                                                                                                                                                                                                                                                                                                                            Score 977; DB 17; Pred. No. 6.4e-93;
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ła M, Yano
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RESULT R99924

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W53238 standard; Protein; 391

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Best Local Similarity
                                                                                                                                                                                                                                                                                                        This sequence represents the mature osteoclastogenesis inhibitory factor (OCIF) of the invention. The OCIF has a molecular weight by SDS-PAGE of 60 kD under reducing conditions and 120 kD under non-reducing conditions. The protein is adsorbed onto cation exchangers
                                                                                                                                                                                                                                                              or heparin and its activity is lowered after 10 mins at 70 deg.C. 30 mins at 56 deg.C. and is lost after 10 mins at 90 deg.C. OCI. useful in the control of bone resorption and therefore in the treatment and prevention of disorders of bone resorption, e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Osteoclastogenesis inhibitory factor; OCIF; heparin; osteoporosis.
                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                      osteoporosis.
                                                                                                                                                                                                                                                                                                                                                                Claim 6; Page 62-64; 183pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                   DNA encoding osteoclastogenesis inhibitory factor protein for bone resorption control, esp. treatment of osteoporosis
                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 1996-402320/40
N-PSDB; T36685.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Goto M, Higashio
Nakagawa N, Shima
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mature osteoclastogenesis inhibitory factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (SNOW ) SNOW BRAND MILK PROD CO
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20-FEB-1995;
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285
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                                                                                                                                  165
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                                                                                                                                            1 SGNREATQKCGIDVTLCEEAFFRFAVPTKIIPNWLSVLVDSLPGTKVNAESVERIKRRHS
                                                        KISPEEIERTRKTCKSSEQLLKLLSLWRIKNGDQDTLKGLMYALKHLKTSHFPKTVTHS:
                                                                                     sgnsestqkcgidvtlceeaffrfavptkftpnwlsvlvdnlpgtkvnaesverikrqhs\\
                                                                                                                                                                             184;
                                                                                                                                                                                                                                  380 AA;
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95JP-0054977.
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85.2%;
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Tsuda E, Ue
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a M, Yano
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Yasuda H;
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Human OCIF genome 15-JUL-1998 W53238;

DNA-2 protein

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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                   and/or antipyretic proteins, which have the following characteristics: (1) MW determined by SDS-PAGE of approximately 60 kDa under reducing conditions, and 60 kDa and 120 kDa under non-reducing conditions; (ii) 401 as sequence (III) (see W53239); (iii) affinity to cation exchangers and heparin; (iv) its osteoclast formation inhibiting activity reduced by heating at 70 degrees Celsius for 10 minutes or 56 degrees Celsius for 30 minutes, and (v) its antipyretic activity reduced by heating at 90 degrees Celsius for 10 minutes, and (2) a method for preparing the above proteins. The proteins are useful for, e.g. treatment and prevention of osteoporosis, rheumatism or multiple sclerosis, and also as antigens for immunological diagnosis of these diseases and disorders.
                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       describes:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The present which is sho
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Page 16-26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sclerosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Inhibition of osteoclast formation and/or antipyretic activity useful for, e.g. treating osteoporosis, rheumatism and multiple
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N-PSDB; V20767
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    356
                                181
                                                             296
                                                                                        121
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                                                                                                                                               61
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SQEQTFQLLKLWKHQNRDQEMVKKIIQDIDLCESSVQRHLGHSNLTTEQLLALMESLPGK 120
                                                                                                                                                                         sgnsestqkcgidvtlceeaffrfavptkftpnwlsvlvdnlpgtkvnaesverikrqhs
                                                                                                                                                                                          SGNREATQKCGIDVTLCEEAFFRFAVPTKIIPNWLSVLVDSLPGTKVNAESVERIKRRHS
                             RKTMRFLHSFTMYRLYQKLFLEMIGNQVQSVKISCL 216
                                                                                                                 sqeqtfqllklwkhqnkdqdivkkiiqdidlcensvqrhighanltfeqlrslmeslpgk
                                                                                                                                                                                                                                      184;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   is shown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OCIF; genome; osteoclast; antipyretic; osteoporosis; tism; multiple sclerosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 nown in the present invention. The present invention (1) a method of inhibiting the formation of osteoclasts
                                                                                                                                                                                                                                                                                                              391 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sequence represents human OCIF genome DNA protein
                                                                                                                                                                                                                                      Conservative
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85.2%;
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Pred. No. 7.2e-93;
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RESULT R99925

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Best Local Similarity
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                                                                                                                                                                                                              factor (OCIF) of the invention. The OCIF has a molecular weight by SDS-PAGE of 60 kD under reducing conditions and 120 kD under non-reducing conditions. The protein is adsorbed onto cation-exchargers or heparin and its activity is lowered after 10 mins at 70 deg r 30 mins at 56 deg.C, and is lost after 10 mins at 90 deg.C. Oci, is useful in the control of bone resorption and therefore in the treatment and prevention of disorders of bone resorption, e.g.
                                                                                                                                                                                                                                                                               This sequence factor (OCIF)
                                                                                                                                                                                                                                                                                                                                   for
                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                              Disclosure; Page
                                                                                                                                                                                                                                                                                                                                                                  N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                           Goto M,
                                                                                                                                                                                                      osteoporosis.
                                                                                                                                                                                                                                                                                                                                                                              WPI;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                   21-JUL-1995;
20-FEB-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      osteoporosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Osteoclastogenesis inhibitory factor; OCIF; heparin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Full length
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Peptide
  306
                       121
                                             246
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                                                                                              encoding osteoclastogenesis inhibitory factor protein bone resorption control, esp. treatment of osteoporosi
                                         1996-402320/40
DB; T36685.
sgnsestqkcgidvtlceeaffrfavptkftpnwlsvlvdnlpgtkvnaesverikrans
                      KISPEEIERTRKTCKSSEQLLKLLSLWRIKNGDQDTLKGLMYALKHLKTSHFPKTVTFS
                                                                                                                                                                                                                                                                                                                                                                                               Higashio K,
N, Shima N,
                                                                                                                                                                                  401
                                                                                                                              Conservative
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                                                                                                                                                                                                                                                                                         represents the full length osteoclastogenesis inhabitory
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95JP-0054977
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22..40
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1..21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note= "Mature OCIF, claim
                                                                                                                                                                                                                                                                                                             64-66; 183pp; Japanese
                                                                                                                                      87.8%;
85.2%;
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Tsuda E, Ue
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                                                                                                                               19;
                                                                                                                             Score 977; DB 17;
Pred. No. 7.5e-93;
9; Mismatches 13
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Ueda M, Yano K,
                                                                                                                                                 Length 401;
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Yasuda H;
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                                                                                                                                                                                                                                               prevention of osteoporosis, as antigens for immunologica
                                                                                                                                                                                                                                                                              90 degrees Celsius for 10 minutes, and (2) a method for preparing above proteins. The proteins are useful for, e.g. treatment and
                                                                                                                                                                                                                                                                                                                                                                                            specifically claimed in the present invention. The present invention describes: (1) a method of inhibiting the formation of osteoclasts and/or antipyretic proteins, which have the following characteristics: (1) MW determined by SDS-PAGE of approximately 60 kDa under reducing
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 4; Page 26-28;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       19-AUG-1996;
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                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Inhibition of osteoclast formation and/or antipyretic activity useful for, e.g. treating osteoporosis, rheumatism and multiple
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (SNOW ) SNOW BRAND MILK PROD CO LTD.
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     246
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                                                                                                                                                  Local Similarity
                                                                                                   سم
1998-169150/15
DB; V20768.
                                                                                  SGNREATQKCGIDVTLCEEAFFRFAVPTKIIPNWLSVLVDSLPGTKVNAESVERIKRRHS
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                                                                                                                                  184;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OCIF; genome;
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/label= OCIF_protein
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                                                                                                                                              87.8%;
85.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                osteoclast; antipyretic; osteoporosis;
sclerosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          36pp; English.
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                                                                                                                                  19;
                                                                                                                               Score 977; DB 19;
Pred. No. 7.5e-93;
9; Mismatches 13
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                                                                                                                                  13;
                                                                                                                                                                 Length 401;
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                                                                                                  (TNFR) TR1, also known as osteoprotegerin. The invention relation to TNFR related polypeptides TR1, TR3 and TR5 (see Y05742-44) and their ligand TL3 (see Y05745). TR1, TR3, TR5 and TL3 are used inclaimed methods of identifying agonists and antagonists, i.e. caponist) or inhibit activation of (antagonists) TR1, TR3, TR5 and which activation of (antagonists) TR1, TR3, TR5 and TL3. A screening kit for identifying agonists, antagonists, TR1, TR3, TR5 or TL3 polypeptides is provided. The agonists and antagonists are useful for treatment of chronic and acute inflammation, arthritis septicaemia, autoimmune disease e.g. inflammatory bowel disease, infection, stransplant rejection, graft versus host disease, infection, stransplant rejection, graft versus host disease, infection, stransplant rejection, graft versus host disease, infection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Tumour necrosis factor receptor; TR1; osteoprotegerin; agonis antagonist; screening; human; cancer; AIDS; Alzheimer's disea inflammation; arthritis; septicaemia; autoinmune disease; psoriasis; inflammatory bowel disease; transplant rejection; graft versus host disease; infection; stroke; ischaemia; acute respiratory disease syndrome; restenosis; brain injury;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            08-OCT-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tumour necrosis factor receptor TR1.
                                   infection, stroke, ischaemia, acute respiratory disease syndromes restenosis, brain injury, AIDS, bone diseases, cancer (e.g. lymphoproliferative disorders), atherosclerosis and Alzheimer's disease, etc., caused by imbalance of TR1, TR3, TR5 or TL3.
                                                                                                                                                                                                                                                                                                                                                                                Disclosure; Page 10-12; 23pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                       Identifying agonists and antagonists of tumor necrosis factor related receptors TR1, TR3 and TR5, and of ligand TL3, useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1999-246560/21.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   McDonnell PC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (SMIK ) SMITHKLINE BEECHAM CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 02-OCT-1998;
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                                                                                                                                                                                                                                                                                                                       sequence represents tumour necrosis factor receptor. also known as osteoprotegerin. The invention related
                                                                                                                                                                                                                                                                                                                                                                                                                      cancer, AIDS, Alzheimer's disease, bone disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               atherosclerosis; therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            97US-0061334
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Query Match Best Local Similarity

87.8%; 85.2%;

Score 977; DB 20; Pred. No. 7.5e-93;

Length 401;

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13-AUG-1997;
26-AUG-1997;
        The invention relates to identifying agonists or antagonists to tumour necrosis factor receptor (TNF-R) related polypeptides (TR1 and TR2, TL2 and TL4). The method comprises: (a) (i) contacting TR1 or TR2 with a candidate compound in the presence of TL2 or TL4; or (ii) contacting TL2 or TL4 with a candidate compound in the presence of TR1 or TR2; and (b) assessing the ability of the candidate compound to compete with TR1 or TR2 binding to TL2 or TL4. TR and TL agonists and antagonists are useful for treating diseases caused by imbalance of TL or TR polypeptide levels, which cause: chronic and acute inflammation, arthritis, septicemia, autoimmune diseases; transplant rejection, graft vs. host disease, infection, stroke, ischemia, acute respiratory diseases, restenosis, brain injury, AIDS, bone diseases, cancer, athersclerosis and Alzheimer's disease. The present sequence represents a TNF-R related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           athersclerosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tumour necrosis factor receptor; TNF-R; TR1; TR2; TL2; TL4; arthritis; inflammation; septicemia; autoimmune disease; transplant rejection; graft vs. host disease; infection; stroke; ischemia; brain injury; AIDS;
                                                                                                                                                                                                                                 Disclosure; Page 11-12;
                                                                                                                                                                                                                                                             Identifying agonists and antagonists to tumour necrosis factor receptor (TNF-R) related polypeptides (TR1, TR2, TL2 and TL4) useful for treating stroke, Alzheimer's disease and AIDS
                                                                                                                                                                                                                                                                                                                                                         Brigham-burke
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tumour necrosis
polypeptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Unidentified
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           respiratory
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                                                                                                                                                                                                                                                                                                                                                         MR,
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97US-0055513.
97US-0056980.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ry disease syndrome;, restenosis,
Alzheimer's disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   factor receptor (TNF-R) related polypeptide TR1
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                                                                                                                                                                                                                                 18pp; English.
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Best Local S
Matches 184
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N-PSDB; V69277.
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18-APR-1997;
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                                                                                                                                                                                                                                     Protein
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                                                                                   New isolated
                                                                                                                          Holtzman
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                                                                  processes, e.g. neuronal development.
                                                                           ated human FTHMA-070 and T85 proteins - used for the diagnosis and therapy of disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 401
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97US-0044746
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85.2%;
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This is the amino acid sequence of human FTHMA-070, a novel problem in the mology to tumour necrosis factor receptor. The sequence was deduced from that of a cDNA clone (see V69277) isolated from cardiac coronary artery smooth muscle cell library. FTHMA-070 nucleic acids and polypeptides of the invention are useful as modulating agents in regulating a variety of cellular probasses.

novel protein sequence

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DNA encoding osteoclastogenesis inhibitory factor protein -
                                                                            N-PSDB;
                                                                                                             WPI; 1996-402320/40
                                                                                                                                                                                                                        Goto M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Misc-difference
                                                                                                                                                                                                                                                                                                                                                            21-JUL-1995;
20-FEB-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             W09626217-AJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        osteoporosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mutated OCIF,
                                                                                                                                                                                   Nakagawa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20-FEB-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        29-AUG-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Osteoclastogenesis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    23-APR-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R99937 standard;
                                                                                                                                                                                                                                                                                      (SNOW ) SNOW BRAND MILK PROD CO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOEQTFQLLKLWKHQNRDQEMVKKIIQDIDLCESSVQRHLGHSNLTTEQLLALMESLPGK 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sqeqtfqllklwkhqnkdqdivkkiiqdidlcensvqrhighanltfeqlrslmeslpgk\\
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                                                                            T33167
                                                                                                                                                                               Higashio K,
N, Shima N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         401 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OCIF-DCR2
                                                                                                                                                                                                                                                                                                                                                            95JP-0207508.
95JP-0054977.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  96WO-JP00374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        63.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note= "Signal peptide" 22..359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     inhibitory factor; OCIF; heparin; bone resorption;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          87.8%;
85.2%;
                                                                                                                                                                               Kobayashi
Tsuda E,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Position of deletion,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Mature OCIF-DCR2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               359
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                                                                                                                                                                                                                                                                                      LTD.
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                                                                                                                                                                               Mochizuki
la M, Yano
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        401
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               delta 43-84'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 401
                                                                                                                                                                               Morinaga
Yasuda H;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
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useful
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This sequence represents a mutated version of the full length osteoclastogenesis inhibitory factor (OCIF) of the invention. This sequence represents OCIF-DCR2 in which amino acids 43-84 of the mature OCIF protein are deleted. The OCIF of the invention has a molecular weight by SDS-PAGE of 60 kD under reducing conditions and 120 kD under non-reducing conditions. The protein is adsorbed into cation-exchangers or heparin and its activity is lowered after to make at 70 deg.C or 30 mins at 56 deg.C, and is lost after 10 mins at 10 deg.C. OCIF is useful in the control of bone resorption and the edg. In the treatment and prevention of disorders of bone resorption, e.g.
                                                                                                                                                                                                                                                     anti-viral response; growth regulator; immune
                                                                                                                                                                                                                                                                 inhibitor; tumour growth; tumour necrosis; microorganism infection; cellular differentiation stimulation; ionising radiation; septic sh
                                                                                                                                                                                                                                                                                                                    TR1 receptor protein
                                     Fleischmann RD,
                                                                                          18-SEP-1996;
                                                                                                                  18-SEP-1996;
                                                                                                                                             26-MAR-1998.
                                                                                                                                                                      WO9812344-A1
                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                        autoimmune disease;
                                                                                                                                                                                                                                                                                                                                                27-AUG-1998
                                                                                                                                                                                                                                                                                                                                                                                                     W57635
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 for bone resorption control, esp. treatment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    324
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                                                                                                                                                                                                                                                                                                                                                                                                                              14
                                                                                                                                                                                                                                                                                           receptor; tumour necrosis factor receptor-1; TNF-alpha;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RKTMRFLHSFTMYRLYQKLFLEMIGNQVQSVKISCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KISPEEIERTRKTCKSSEQLLKLLSLWRIKNGDQDTLKGLMYALKHLKTSHFPKTVTH: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SQEQTFQLLKLWKHQNRDQEMVKKIIQDIDLCESSVQRHLGHSNLTTEQLLALMESLPGK 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             kktirflhsftmyklyhklflemignqvqsvkiscl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        kvgaediektikackpsdqilkllslwrikngdqdtlkglmhalkhsktyhfpktvtqs!
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         {\tt sqeqtfqllklwkhqnkdqdivkkiiqdidlcensvqrhighanltfeqlrslmeslpqk}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   183;
                                                                                                                                                                                                                         therapy
                                                                                                                                                                                                                                                                                                                                                                                                   standard;
                                                                 HUMAN GENOME SCI INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                          96WO-US15003
                                                                                                                  96WO-US15003
                                     Greene
                                                                                                                                                                                                                                                                                                                                                                                                  Protein; 401
                                                                                                                                                                                                                                        apoptosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               87.3%;
84.7%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     183pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   19;
                                     N.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 972; DB 17;
Pred. No. 2.1e-92;
                                                                                                                                                                                                                                                                                                                                                                                                   æ
                                                                                                                                                                                                                                        inflammation; cachexia;
                                     Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                ionising radiation; septic shock;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   of osteoporosis
                                                                                                                                                                                                                                                      response; meningococcemia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                       cerebral malaria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             359;
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                                                                                                                                                                                                                                                                                          TNF-1 a;
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N-PSDB; V24486 WPI; 1998-217278/19

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RESULT 15
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  such as HIV. Antagonists to the TRI receptor may be used to treat autoimmune diseases, e.g. graft versus host rejection and allograft rejection, and Toell mediated autoimmune diseases. They may also be used to prevent apoptosis. They may also be used to prevent cytotoxicity and to treat septic shock, meningococcemia, inflammation, bacterial infections, cachexia, cerebral malaria or AIDS. The products can also be used for diagnosing the above diseases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    differentiation, e.g. T cell, fibroblasts or haematopoietic cell differentiation, may be used to augment TR1's role in the host's deagainst microorganisms and prevent related disease. The agonists may also be used to protect against the deleterious effects of ionising
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            receptor agonists can be used for inhibition of tumour growth an necrosis of tumours. They can also be used to stimulate cellular differentiation, e.g. T cell, fibroblasts or haematopoietic cell
antisense oligonucleotide; probe; detection; screening; human; bone disease; osteoporosis; Paget's disease; hypercalcaemia; hyperparathyroidism; rheumatoid arthritis; osteomyelitis; osteolytic metastasis; periodontal bone loss; bone necrosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              radiation produced during a course of radiotherapy, e.g. denaturation o enzymes, lipid peroxidation or DNA damage. The agonists may further be used to mediate an anti-viral response, to regulate growth, to mediate the immune response and to treat immunodeficiencies related to diseases
                                                                                                               Osteoprotegerin; antibody; diagnosis; affinity purification; recombinant production; transgenic animal; treatment; preven
                                                                                                                                                                                                    Human osteoprotegerin
                                                                                                                                                                                                                                                                 20-APR-1998
                                                                                                                                                                                                                                                                                                                                                                           W38345 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This sequence is a tumour necrosis factor receptor-1 (TR1) receptor of the invention. The DNA can be used to produce a recombinant host cell by inserting it into a vector, which is then used to transfect these tell. The TR1 receptor can bind both TNF-alpha and TNF-beta. TR1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New isolated tumour necrosis factor receptor - useful for developing products for treating, e.g. tumours, auto-immune disease(s), graft rejection, apoptosis or inflammation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        366
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SQEQTFQLLKLWKHQNRDQEMYKKIIQDIDLCESSVQRHLGHSNLTTEQLLALMESLPGK 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   401 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                            (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 87.3%;
84.7%;
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Pred. No. 2.5e-92;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            hyperparathyroidism, rheumatoid arthritis, osteomyelitis, osteolytic metastases, periodontal bone loss, bone necros
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
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SQEQTFQLLKLWKHQNRDQEMVKKIIQDIDLCESSVQRHLGHSNLTTEQLLALMESLI*..
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